

# 1YN&1DX Comparison

Murata  
June of 2023



# 1YN&1DX difference comparison



|                              |                                                  |                            |
|------------------------------|--------------------------------------------------|----------------------------|
| Part Number                  | <a href="#">LBEE5KL1YN</a>                       | <a href="#">LBEE5KL1DX</a> |
| IC Manufacturer              | Infineon                                         | Infineon                   |
| Chipset                      | CYW43439                                         | CYW4343W                   |
| LPF                          | LFL152G45TC7C309                                 | LFL152G45TC7C309           |
| Technology                   | Wi-Fi,Bluetooth                                  | Wi-Fi,Bluetooth            |
| Wi-Fi                        | Wi-Fi 4                                          | Wi-Fi 4                    |
| Frequency                    | 2.4GHz                                           | 2.4GHz                     |
| Bluetooth                    | 5.1 BR/EDR/LE                                    | 5.1 BR/EDR/LE              |
| Host Interface (Wi-Fi)       | SDIO                                             | SDIO                       |
| Host Interface (Bluetooth)   | UART                                             | UART                       |
| Peripheral Interface         | GPIO                                             | GPIO                       |
| Dimension                    | 6.95 x 5.15 x 1.1 mm                             | 6.95 x 5.15 x 1.1 mm       |
| Supply Voltage               | 3.2V to 4.2V                                     | 3.2V to 4.2V               |
| Interface Voltage            | 1.8V,3.3V                                        | 1.8V,3.3V                  |
| FCC/IC Certified             | Yes                                              | Yes                        |
| ETSI Report                  | Yes                                              | Yes                        |
| MIC (Japan) Certified        | Yes                                              | Yes                        |
| Operating Temperature (degC) | -30°C to 70°C<br>( will change to -40°C to 85°C) | -30°C to 70°C              |
| Mounting Type                | SMT                                              | SMT                        |
| Structure                    | Shielded Resin                                   | Shielded Resin             |
| Packaging                    | Tape and Reel                                    | Tape and Reel              |

# 1YN&1DX RF performance comparison



| Module | Function                  | WiFi       |            |          | BT  |     |     |
|--------|---------------------------|------------|------------|----------|-----|-----|-----|
|        | Modulation                | 11B@11Mbps | 11G@54Mbps | 11N@MCS7 | BDR | EDR | BLE |
| 1YN    | Tx Power(dBm) @Typic      | 17         | 13         | 12       | 8   | 4   | 7   |
|        | Tx current(mA)@Typic      | 320        | 270        | 260      | 28  | 25  | -   |
|        | Rx Sensitivity(dBm)@Typic | -89        | -75        | -73      | -91 | -88 | -95 |
|        | Rx current(mA)@Typic      | 47         | 47         | 47       | 10  | 10  | -   |
| 1DX    | Tx Power(dBm) @Typic      | 17         | 13         | 12       | 8   | 4   | 7   |
|        | Tx current(mA)@Typic      | 320        | 270        | 260      | 28  | 25  | -   |
|        | Rx Sensitivity(dBm)@Typic | -89        | -75        | -73      | -91 | -88 | -95 |
|        | Rx current(mA)@Typic      | 47         | 47         | 47       | 10  | 10  | -   |

1YN and 1DX RF performance is same because IC performance is same and RF path matching also same only IC difference.

# 1YN&1DX Software/Driver comparison



| Comparison          | Type 1YN                                                                                                        | Type 1DX                                                                                                         |
|---------------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Driver              | FMAC driver                                                                                                     | FMAC driver                                                                                                      |
| WiFi Firmware files | Bin file:cyfmac43439-sdio.bin<br>Nvram file:cyfmac43439-sdio.1YN.txt<br>Blob file:cyfmac43439-sdio.1YN.clm_blob | Bin file: cyfmac43430-sdio.bin<br>Nvram file:cyfmac43430-sdio.1DX.txt<br>Blob file:cyfmac43430-sdio.1DX.clm_blob |
| BT hcd file         | CYW4343A2_001.003.016.0031.0000.1YN.hcd                                                                         | BCM43430A1_001.002.009.0159.0528.1DX.hcd                                                                         |
| Platform            | WICED,i.MX Yocto,Linux                                                                                          | Linux,WICED,Modus,i.MX Yocto,                                                                                    |

# 4343W&43439 difference comparison



|                               | CYW4343W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |               |               |           |           |              |             |              |              |                  |               |                  |               | CYW43439 |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |           |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |             |             |  |             |          |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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  |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
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<table><tr><th></th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th><th>G</th><th>H</th><th>J</th><th>K</th><th>L</th><th>M</th><th></th></tr><tr><td>1</td><td>BT_UART_RXD</td><td>BT_DEV_WAKE</td><td>BT_HOST_WAKE</td><td></td><td>FM_RF_IN</td><td>BT_VCO_VDD</td><td>BT_F_VDD</td><td>BT_PAVDD</td><td>WLRF_2G_eLG</td><td>WLRF_2G_RF</td><td></td><td>WLRF_PA_VDD</td><td>1</td></tr><tr><td>2</td><td>BT_UART_TXD</td><td>BT_UART_CTS_N</td><td>FM_OUT1</td><td>FM_OUT2</td><td>FM_RF_VDD</td><td>BT_FPLL_VDD</td><td>BT_FPLL_VSS</td><td>BT_F_VSS</td><td>WLRF_LNA_GND</td><td>WLRF_GENERAL_GND</td><td>WLRF_PA_GND</td><td>WLRF_VDD_1P35</td><td>2</td></tr><tr><td>3</td><td>BT_I2S_WS</td><td>BT_I2S_DO</td><td>BT_UART_RTS_N</td><td>VDDC</td><td>FM_RF_VSS</td><td></td><td></td><td>BT_VCO_VSS</td><td>WLRF_GPIO</td><td></td><td>WLRF_VCO_GND</td><td>WLRF_XTAL_VDD1P2</td><td>3</td></tr><tr><td>4</td><td>BT_I2S_CLK</td><td>BT_PCM_OUT</td><td>BT_PCM_IN</td><td>VSSC</td><td></td><td>BT_GPIO_3</td><td>VDDC</td><td>WLRF_AFE_GND</td><td></td><td>GPIO_3</td><td>WLRF_XTAL_GND</td><td>WLRF_XTAL_XOP</td><td>4</td></tr><tr><td>5</td><td>BT_PCM_CLK</td><td>BT_PCM_SYNC</td><td>SYS_VDDIO</td><td>WPT_1P8</td><td>WPT_3V3</td><td>LPO_IN</td><td>BT_GPIO_4</td><td>BT_GPIO_5</td><td>VSSC</td><td>GPIO_4</td><td>GPIO_2</td><td>WLRF_XTAL_XON</td><td>5</td></tr><tr><td>6</td><td>SR_VLX</td><td>PMU_AVSS</td><td>VOUT_CLDO</td><td>VOUT_LNLD</td><td>BT_REG_ON</td><td>WCC_VDDIO</td><td>WL_REG_ON</td><td>GPIO_1</td><td>GPIO_0</td><td>SDIO_DATA_0</td><td>SDIO_CMD</td><td>CLK_REQ</td><td>6</td></tr><tr><td>7</td><td>SR_PVSS</td><td>SR_VDDBATSV</td><td>LDO_VDD1P5</td><td></td><td>VOUT_3P3</td><td>LDO_VDDBATSV</td><td></td><td>SDIO_DATA_1</td><td>SDIO_DATA_3</td><td></td><td>SDIO_DATA_2</td><td>SDIO_CLK</td><td>7</td></tr><tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td><td>G</td><td>H</td><td>J</td><td>K</td><td>L</td><td>M</td><td></td></tr></table> |               |               |           |           |              |             |              |              |                  |               |                  |               |          | A | B | C | D | E | F | G | H | J | K | L | M |  | 1 | BT_UART_RXD | BT_DEV_WAKE | BT_HOST_WAKE |  | FM_RF_IN | BT_VCO_VDD | BT_F_VDD | BT_PAVDD | WLRF_2G_eLG | WLRF_2G_RF |  | WLRF_PA_VDD | 1 | 2 | BT_UART_TXD | BT_UART_CTS_N | FM_OUT1 | FM_OUT2 | FM_RF_VDD | BT_FPLL_VDD | BT_FPLL_VSS | BT_F_VSS | WLRF_LNA_GND | WLRF_GENERAL_GND | WLRF_PA_GND | WLRF_VDD_1P35 | 2 | 3 | BT_I2S_WS | BT_I2S_DO | BT_UART_RTS_N | VDDC | FM_RF_VSS |  |  | BT_VCO_VSS | WLRF_GPIO |  | WLRF_VCO_GND | WLRF_XTAL_VDD1P2 | 3 | 4 | BT_I2S_CLK | BT_PCM_OUT | BT_PCM_IN | VSSC |  | BT_GPIO_3 | VDDC | WLRF_AFE_GND |  | GPIO_3 | WLRF_XTAL_GND | WLRF_XTAL_XOP | 4 | 5 | BT_PCM_CLK | BT_PCM_SYNC | SYS_VDDIO | WPT_1P8 | WPT_3V3 | LPO_IN | BT_GPIO_4 | BT_GPIO_5 | VSSC | GPIO_4 | GPIO_2 | WLRF_XTAL_XON | 5 | 6 | SR_VLX | PMU_AVSS | VOUT_CLDO | VOUT_LNLD | BT_REG_ON | WCC_VDDIO | WL_REG_ON | GPIO_1 | GPIO_0 | SDIO_DATA_0 | SDIO_CMD | CLK_REQ | 6 | 7 | SR_PVSS | SR_VDDBATSV | LDO_VDD1P5 |  | VOUT_3P3 | LDO_VDDBATSV |  | SDIO_DATA_1 | SDIO_DATA_3 |  | SDIO_DATA_2 | SDIO_CLK | 7 |  | A | B | C | D | E | F | G | H | J | K | L | M |  | 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F | G | H | J | K | L | M |  |
|                               | A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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          | C             | D         | E         | F            | G           | H            | J            | K                | L             | M                |               |          |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |        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  |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 1                             | BT_UART_RXD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | BT_DEV_WAKE   | BT_HOST_WAKE  |           | FM_RF_IN  | BT_VCO_VDD   | BT_F_VDD    | BT_PAVDD     | WLRF_2G_eLG  | WLRF_2G_RF       |               | WLRF_PA_VDD      | 1             |          |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |    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      |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 2                             | BT_UART_TXD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | BT_UART_CTS_N | FM_OUT1       | FM_OUT2   | FM_RF_VDD | BT_FPLL_VDD  | BT_FPLL_VSS | BT_F_VSS     | WLRF_LNA_GND | WLRF_GENERAL_GND | WLRF_PA_GND   | WLRF_VDD_1P35    | 2             |          |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |    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      |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 3                             | BT_I2S_WS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | BT_I2S_DO     | BT_UART_RTS_N | VDDC      | FM_RF_VSS |              |             | BT_VCO_VSS   | WLRF_GPIO    |                  | WLRF_VCO_GND  | WLRF_XTAL_VDD1P2 | 3             |          |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |           |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |             |             |  |             |          |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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      |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 4                             | BT_I2S_CLK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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BT_PCM_OUT    | BT_PCM_IN     | VSSC      |           | BT_GPIO_3    | VDDC        | WLRF_AFE_GND |              | GPIO_3           | WLRF_XTAL_GND | WLRF_XTAL_XOP    | 4             |          |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |           |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |             |             |  |             |          |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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      |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 5                             | BT_PCM_CLK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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BT_PCM_SYNC   | SYS_VDDIO     | WPT_1P8   | WPT_3V3   | LPO_IN       | BT_GPIO_4   | BT_GPIO_5    | VSSC         | GPIO_4           | GPIO_2        | WLRF_XTAL_XON    | 5             |          |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |           |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |             |             |  |             |          |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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      |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 6                             | SR_VLX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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PMU_AVSS      | VOUT_CLDO     | VOUT_LNLD | BT_REG_ON | WCC_VDDIO    | WL_REG_ON   | GPIO_1       | GPIO_0       | SDIO_DATA_0      | SDIO_CMD      | CLK_REQ          | 6             |          |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |           |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |             |             |  |             |          |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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      |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 7                             | SR_PVSS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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SR_VDDBATSV   | LDO_VDD1P5    |           | VOUT_3P3  | LDO_VDDBATSV |             | SDIO_DATA_1  | SDIO_DATA_3  |                  | SDIO_DATA_2   | SDIO_CLK         | 7             |          |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |           |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |             |             |  |             |          |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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      |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
|                               | A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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          | C             | D         | E         | F            | G           | H            | J            | K                | L             | M                |               |          |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |        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  |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
|                               | A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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          | C             | D         | E         | F            | G           | H            | J            | K                | L             | M                |               |          |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |           |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |             |             |  |             |          |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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  |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 1                             | BT_UART_RXD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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BT_DEV_WAKE   | BT_HOST_WAKE  |           | FM_RF_IN  | BT_VCO_VDD   | BT_F_VDD    | BT_PAVDD     | WLRF_2G_eLG  | WLRF_2G_RF       |               | WLRF_PA_VDD      | 1             |          |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |           |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |             |             |  |             |          |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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      |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 2                             | BT_UART_TXD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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BT_UART_CTS_N | FM_OUT1       | FM_OUT2   | FM_RF_VDD | BT_FPLL_VDD  | BT_FPLL_VSS | BT_F_VSS     | WLRF_LNA_GND | WLRF_GENERAL_GND | WLRF_PA_GND   | WLRF_VDD_1P35    | 2             |          |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |    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      |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 3                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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          | BT_UART_RTS_N | VDDC      | FM_RF_VSS |              |             | BT_VCO_VSS   | WLRF_GPIO    |                  | WLRF_VCO_GND  | WLRF_XTAL_VDD1P2 | 3             |          |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |           |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |             |             |  |             |          |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| 4                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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BT_PCM_OUT    | BT_PCM_IN     | VSSC      |           |              |             |              |              |                  |               | WLRF_XTAL_GND    | WLRF_XTAL_XOP | 4        |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |    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      |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 5                             | BT_PCM_CLK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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BT_PCM_SYNC   |               |           |           |              |             | LPO_IN       |              |                  | VSSC          | GPIO_2           | WLRF_XTAL_XON | 5        |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |    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      |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 6                             | SR_VLX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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PMU_AVSS      | VOUT_CLDO     | VOUT_LNLD | BT_REG_ON | WCC_VDDIO    | WL_REG_ON   | GPIO_1       | GPIO_0       | SDIO_DATA_0      | SDIO_CMD      | CLK_REQ          | 6             |          |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |           |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |             |             |  |             |          |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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      |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 7                             | SR_PVSS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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SR_VDDBATSV   | LDO_VDD1P5    |           | VOUT_3P3  | LDO_VDDBATSV |             |              |              |                  |               | SDIO_DATA_1      | SDIO_DATA_3   | 7        |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |    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|                               | A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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          | C             | D         | E         | F            | G           | H            | J            | K                | L             | M                |               |          |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |        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  |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| I2S(WS/DO/CLK)                | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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   |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |             |             |  |             |          |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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  |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| BT_GPIO_3(Wireless charging)  | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| BT_GPIO_4(Wireless charging)  | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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  |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| BT_GPIO_5(Wireless charging)  | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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  |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| GPIO_3(Programmable charging) | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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  |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| GPIO_4(Programmable charging) | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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          |               |           |           |              |             |              |              |                  |               |                  |               | No       |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |           |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |             |             |  |             |          |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |  |  |               |      |           |  |  |            |           |  |              |                  |   |   |  |            |           |      |  |  |  |  |  |  |  |               |               |   |   |            |             |  |  |  |  |  |        |  |  |      |        |               |   |   |        |          |           |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| WPT_1P8/WPT_3V3               | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |               |           |           |              |             |              |              |                  |               |                  |               | No       |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |           |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |             |             |  |             |          |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |  |  |               |      |           |  |  |            |           |  |              |                  |   |   |  |            |           |      |  |  |  |  |  |  |  |               |               |   |   |            |             |  |  |  |  |  |        |  |  |      |        |               |   |   |        |          |           |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |
| SYS_VDDIO                     | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |               |           |           |              |             |              |              |                  |               |                  |               | No       |   |   |   |   |   |   |   |   |   |   |   |   |  |   |             |             |              |  |          |            |          |          |             |            |  |             |   |   |             |               |         |         |           |             |             |          |              |                  |             |               |   |   |           |           |               |      |           |  |  |            |           |  |              |                  |   |   |            |            |           |      |  |           |      |              |  |        |               |               |   |   |            |             |           |         |         |        |           |           |      |        |        |               |   |   |        |          |           |           |           |           |           |        |        |             |          |         |   |   |         |             |            |  |          |              |  |             |             |  |             |          |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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  |         |   |   |         |             |            |  |          |              |  |  |  |  |  |             |             |   |  |   |   |   |   |   |   |   |   |   |   |   |   |  |

For IC pinout difference, there were 11 signals reduced from CYW4343W to CYW43439, but from module pinout difference, there were 4 signals(GPIO\_4/BT\_I2S\_DO/BT\_GPIO\_3/\_4) reduced from 1DX to 1YN.

1YN chipset CYW43439 have the similar die with 1DX CYW4343W.  
1YN and 1DX have totally same RF performance and functions.  
1YN and 1DX have same regulatory cert condition(Power table).

# Conclusion

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From 1DX to 1YN is easy to change because only change FW/nvram/hcd/blob but performance is no change. Please select correct FW/nvram/hcd.file by Murata Github.