

**Espressif IOT ESP**

**Bluetooth Auto Test Report**

**Version 1.0**

Espressif Systems IOT Team

Copyright (c) 2015

A2 Report Revision History:

|  |  |  |  |
| --- | --- | --- | --- |
| Table 1 | | | |
| Revision | Date | Changes | Author |
|  |  |  |  |

Module&Test Information

|  |  |
| --- | --- |
| Table 2 | |
| Module Name: | ESP32\_TestBoard\_V1 |
| PCB Version: | V2 |
| Sample number: | #1 |
| Test Engineer: | hujinping |
| Test Date: | 10/26/18 14:02:29 |
| Test Place: | Second floor laboratory |
| Test Equipment: | WT200 |
| Test Bin | V146 |
| Cable loss/dB: | 12.8 |
| Backoff(4=1dB): | IC(1.5pf\_2.4nH\_1.0pf)/29-j12 |
| Pi match/s11 smith: | 2.0 |
| Note: | |

1. Test Item Summary

1.1. Static Performance

1.1.1. Basic rate TX

|  |  |  |
| --- | --- | --- |
| Table 3 | | |
| No. | Test Items | Pass/Fail |
| 1 | Basic rate TX | Pass |
| 2 | 2M EDR TX | Pass |
| 3 | 3M EDR TX | Pass |
| 4 | BLE TX | Pass |

1.1.2. Receiver sensitivity

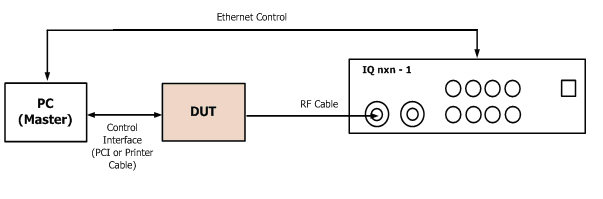
|  |  |  |
| --- | --- | --- |
| Table 4 | | |
| No. | Test Items | Pass/Fail |
| 1 | BR sensitivity | Pass |
| 2 | 2M EDR sensitivity | Pass |
| 3 | 3M EDR sensitivity | Pass |
| 3 | BLE sensitivity | Pass |

1. Test Result

2.1. Test setup

a. Maximum Transmit Power Profile vs. Operation Channel

Test Setup:



**Figure 1: WiFi TX Performance Environment Setup**

Note :

1. Config the instrument setup as above.
2. Select Tx Rate/Channel/BW as tables specified below.
3. Run the Test script and record test results.

2.2. Basic rate TX

Requirement

|  |  |
| --- | --- |
| Table 5 | |
| Specification | Requirement |
| Frequency range(MHz) | (2400,2483.5) |
| Output Power(dBm) | (-3, +3) @power\_level=4； |
| Init Freq Error(kHz) | (-75kHz,+75kHz) |
| Bandwidth20dB(kHz) | ≤ 1000kHz |
| deltaF2Max(kHz) | (115kHz ,500kHz)(at least 99%) |
| deltaF2Avg(kHz) | (112kHz, 500kHz) |
| deltaF1Avg(kHz) | (140kH, 175kHz) |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 6 | | | | | | | | | |
| Data rate | 1M\_DH5\_1010 | | | | | | | | |
| Channel | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 78 |
| Frequency | 2402 | 2412 | 2422 | 2432 | 2442 | 2452 | 2462 | 2472 | 2480 |
| Output Power(dBm) | -9.28 | -9.09 | -9.01 | -9.21 | -8.90 | -9.05 | -9.11 | -8.89 | -8.53 |
| Init Freq Error(KHz) | -20.67 | -17.50 | -19.14 | -20.80 | -18.13 | -19.21 | -21.89 | -18.91 | -19.14 |
| deltaF2Max(kHz) | 145.30 | 145.57 | 145.28 | 147.46 | 145.39 | 146.92 | 147.15 | 145.70 | 144.38 |
| deltaF2Avg(kHz) | 139.07 | 139.15 | 139.35 | 140.97 | 138.64 | 140.54 | 140.52 | 139.56 | 138.83 |
| **Pass/Fail** | pass | pass | pass | pass | pass | pass | pass | pass | pass |
| Power by channel | bt_pwr_1M_DH5_1010 | | | | | | | | |
| Init Freq Error by channel | bt_Init_Freq_Err_1M_DH5_1010 | | | | | | | | |
| deltaF2Max by channel | bt_deltaF2Max_1M_DH5_1010 | | | | | | | | |
| deltaF2Avg by channel | bt_deltaF2Avg_1M_DH5_1010_pwr | | | | | | | | |
| **Note：** | **1M\_DH5\_1010 meets the test requirements** | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 7 | | | | | | | | | |
| Data rate | 1M\_DH5\_00001111 | | | | | | | | |
| Channel | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 78 |
| Frequency | 2402 | 2412 | 2422 | 2432 | 2442 | 2452 | 2462 | 2472 | 2480 |
| Output Power(dBm) | -9.35 | -9.13 | -9.01 | -9.18 | -8.94 | -9.04 | -9.09 | -8.91 | -8.59 |
| Init Freq Error(KHz) | -21.43 | -18.47 | -18.94 | -21.77 | -17.89 | -18.86 | -21.28 | -18.17 | -19.78 |
| deltaF1Avg(kHz) | 156.04 | 155.98 | 154.35 | 155.93 | 154.84 | 156.32 | 155.62 | 155.99 | 154.92 |
| **Pass/Fail** | pass | pass | pass | pass | pass | pass | pass | pass | pass |
| Power by channel | bt_pwr_1M_DH5_00001111 | | | | | | | | |
| Init Freq Error by channel | bt_Init_Freq_Err_1M_DH5_00001111 | | | | | | | | |
| deltaF1Avg by channel | bt_deltaF1Avg_1M_DH5_00001111 | | | | | | | | |
| **Note：** | **1M\_DH5\_00001111 meets the test requirements** | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 8 | | | | | | | | | |
| Data rate | 1M\_DH5\_prbs9 | | | | | | | | |
| Channel | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 78 |
| Frequency | 2402 | 2412 | 2422 | 2432 | 2442 | 2452 | 2462 | 2472 | 2480 |
| Output Power(dBm) | -9.34 | -9.13 | -9.05 | -9.19 | -8.96 | -9.03 | -9.09 | -8.90 | -8.63 |
| Init Freq Error(KHz) | -21.57 | -17.88 | -18.71 | -21.04 | -17.75 | -18.95 | -21.23 | -19.27 | -19.54 |
| Bandwidth20dB(kHz) | 910.00 | 910.00 | 905.00 | 910.00 | 910.00 | 875.00 | 900.00 | 905.00 | 910.00 |
| **Pass/Fail** | pass | pass | pass | pass | pass | pass | pass | pass | pass |
| Power by channel | bt_pwr_1M_DH5_prbs9 | | | | | | | | |
| Init Freq Error by channel | bt_Init_Freq_Err_1M_DH5_prbs9 | | | | | | | | |
| Bandwidth20dB by channel | bt_bandwidth20dB_1M_DH5_prbs9 | | | | | | | | |
| **Note：** | **1M\_DH5\_prbs9 meets the test requirements** | | | | | | | | |

2.3 Enhanced data rate 2M TX

|  |  |
| --- | --- |
| Table 9 | |
| Specification | Requirement |
| Output Power(dBm) | (-3, +3) @power\_level=4； |
| Init Freq Error(kHz) | (-75,+75) |
| OMEGA\_I(kHz) | (-75kHz, +75kHz)，for all packets |
| OMEGA\_O(kHz) | (-10kHz, 10kHz)，for all block |
| OMEGA\_IO(kHz) | (-75kHz, +75kHz)，for all block |
| DEVM Average(%) | (0, 20) @ 2M |
| DEVM Peak(%) | (0, 35) @ 2M |
| EdrprobEVM99pass(%) | (0, 30) @ 2M |
| EdrPowDiffdB(dB) | (-4dBm, 1dBm) |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 10 | | | | | | | | | |
| Data rate | 2M\_DH5\_1010 | | | | | | | | |
| Channel | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 78 |
| Frequency | 2402 | 2412 | 2422 | 2432 | 2442 | 2452 | 2462 | 2472 | 2480 |
| Output Power(dBm) | -9.48 | -9.26 | -9.18 | -9.31 | -9.09 | -9.16 | -9.23 | -9.03 | -8.75 |
| Init Freq Error(kHz) | -21.99 | -18.33 | -18.80 | -21.57 | -17.42 | -19.26 | -22.48 | -18.91 | -19.50 |
| OMEGA\_I(kHz) | -19.60 | -18.98 | -18.94 | -19.89 | -19.13 | -19.32 | -19.96 | -19.61 | -20.52 |
| OMEGA\_O(kHz) | -1.82 | -1.01 | -1.50 | -2.03 | -0.96 | -1.70 | -1.71 | -1.56 | -2.99 |
| OMEGA\_IO(kHz) | -21.42 | -19.98 | -20.44 | -21.92 | -20.09 | -21.02 | -21.66 | -21.16 | -23.51 |
| DEVM Average(%) | 2.75 | 2.73 | 2.72 | 2.66 | 2.76 | 2.80 | 2.94 | 2.96 | 2.74 |
| DEVM Peak(%) | 4.95 | 5.13 | 4.89 | 4.82 | 5.28 | 4.97 | 5.27 | 5.27 | 5.52 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.16 | -0.15 | -0.16 | -0.14 | -0.16 | -0.15 | -0.14 | -0.16 | -0.14 |
| **Pass/Fail** | pass | pass | pass | pass | pass | pass | pass | pass | pass |
| Power by channel | bt_pwr_2M_DH5_1010 | | | | | | | | |
| Init Freq Error by channel | bt_Init_Freq_Err_2M_DH5_1010 | | | | | | | | |
| DEVM Average(%) by channel | bt_EdrEVMAv_2M_DH5_1010 | | | | | | | | |
| DEVM Peak(%) | bt_EdrEVMpk_2M_DH5_1010 | | | | | | | | |
| EdrPowDiffdB by channel | bt_EdrPowDiffdB_2M_DH5_1010 | | | | | | | | |
| **Note:** | **2M\_DH5\_1010 meets the test requirements** | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 11 | | | | | | | | | |
| Data rate | 2M\_DH5\_00001111 | | | | | | | | |
| Channel | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 78 |
| Frequency | 2402 | 2412 | 2422 | 2432 | 2442 | 2452 | 2462 | 2472 | 2480 |
| Output Power(dBm) | -9.52 | -9.31 | -9.24 | -9.36 | -9.14 | -9.21 | -9.26 | -9.07 | -8.80 |
| Init Freq Error(kHz) | -21.00 | -18.55 | -19.45 | -20.74 | -18.14 | -19.23 | -21.78 | -19.57 | -19.68 |
| OMEGA\_I(kHz) | -19.66 | -19.44 | -19.60 | -19.86 | -19.56 | -19.69 | -19.56 | -19.54 | -19.87 |
| OMEGA\_O(kHz) | -2.33 | -1.88 | -1.33 | -2.01 | -1.47 | -1.26 | -1.01 | -1.27 | -1.84 |
| OMEGA\_IO(kHz) | -22.00 | -21.33 | -20.94 | -21.87 | -21.02 | -20.94 | -20.57 | -20.81 | -21.71 |
| DEVM Average(%) | 4.22 | 4.23 | 3.95 | 4.25 | 3.99 | 4.01 | 4.12 | 4.27 | 4.03 |
| DEVM Peak(%) | 7.65 | 7.72 | 7.32 | 7.71 | 7.66 | 7.11 | 7.15 | 7.79 | 7.43 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.20 | -0.19 | -0.19 | -0.20 | -0.20 | -0.19 | -0.21 | -0.22 | -0.20 |
| **Pass/Fail** | pass | pass | pass | pass | pass | pass | pass | pass | pass |
| Power by channel | bt_pwr_2M_DH5_00001111 | | | | | | | | |
| Init Freq Error by channel | bt_Init_Freq_Err_2M_DH5_00001111 | | | | | | | | |
| DEVM Average(%) by channel | bt_EdrEVMAv_2M_DH5_00001111 | | | | | | | | |
| DEVM Peak(%) | bt_EdrEVMpk_2M_DH5_00001111 | | | | | | | | |
| EdrPowDiffdB by channel | bt_EdrPowDiffdB_2M_DH5_00001111 | | | | | | | | |
| **Note:** | **2M\_DH5\_00001111 meets the test requirements** | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 12 | | | | | | | | | |
| Data rate | 2M\_DH5\_prbs9 | | | | | | | | |
| Channel | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 78 |
| Frequency | 2402 | 2412 | 2422 | 2432 | 2442 | 2452 | 2462 | 2472 | 2480 |
| Output Power(dBm) | -9.43 | -9.22 | -9.15 | -9.27 | -9.06 | -9.13 | -9.18 | -8.98 | -8.71 |
| Init Freq Error(kHz) | -21.50 | -18.62 | -18.04 | -21.64 | -17.69 | -18.91 | -22.10 | -18.20 | -19.86 |
| OMEGA\_I(kHz) | -19.53 | -19.44 | -19.59 | -19.59 | -19.52 | -19.32 | -19.48 | -19.72 | -20.19 |
| OMEGA\_O(kHz) | -2.10 | -1.60 | -1.43 | -1.52 | -1.84 | -1.15 | -1.19 | -1.68 | -2.47 |
| OMEGA\_IO(kHz) | -21.64 | -21.04 | -21.02 | -21.10 | -21.36 | -20.48 | -20.66 | -21.39 | -22.66 |
| DEVM Average(%) | 4.40 | 4.52 | 4.53 | 4.49 | 4.63 | 4.61 | 4.47 | 4.49 | 4.54 |
| DEVM Peak(%) | 9.15 | 9.94 | 9.40 | 9.32 | 9.51 | 9.41 | 9.80 | 9.48 | 10.04 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.11 | -0.10 | -0.10 | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 | -0.10 |
| **Pass/Fail** | pass | pass | pass | pass | pass | pass | pass | pass | pass |
| Power by channel | bt_pwr_2M_DH5_prbs9 | | | | | | | | |
| Init Freq Error by channel | bt_Init_Freq_Err_2M_DH5_prbs9 | | | | | | | | |
| DEVM Average(%) by channel | bt_EdrEVMAv_2M_DH5_prbs9 | | | | | | | | |
| DEVM Peak(%) | bt_EdrEVMpk_2M_DH5_prbs9 | | | | | | | | |
| EdrPowDiffdB by channel | bt_EdrPowDiffdB_2M_DH5_prbs9 | | | | | | | | |
| **Note:** | **2M\_DH5\_prbs9 meets the test requirements** | | | | | | | | |

2.4Enhanced data rate 3M TX

|  |  |
| --- | --- |
| Table 13 | |
| Specification | Requirement |
| Output Power(dBm) | (-3, +3) @power\_level=4； |
| Init Freq Error(kHz) | (-75,+75) |
| OMEGA\_I(kHz) | (-75kHz, +75kHz)，for all packets |
| OMEGA\_O(kHz) | (-10kHz, 10kHz)，for all block |
| OMEGA\_IO(kHz) | (-75kHz, +75kHz)，for all block |
| DEVM Average(%) | (0, 13)@ 3M |
| DEVM Peak(%) | (0, 25)@ 3M |
| EdrprobEVM99pass(%) | (0, 20)@ 3M |
| EdrPowDiffdB(dB) | (-4dBm, 1dBm) |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 14 | | | | | | | | | |
| Data rate | 3M\_DH5\_1010 | | | | | | | | |
| Channel | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 78 |
| Frequency | 2402 | 2412 | 2422 | 2432 | 2442 | 2452 | 2462 | 2472 | 2480 |
| Output Power(dBm) | -9.44 | -9.23 | -9.15 | -9.28 | -9.06 | -9.13 | -9.20 | -9.00 | -8.72 |
| Init Freq Error(kHz) | -21.55 | -18.42 | -19.11 | -21.25 | -18.47 | -18.31 | -21.85 | -18.49 | -19.49 |
| OMEGA\_I(kHz) | -19.18 | -19.24 | -18.97 | -19.18 | -19.26 | -19.17 | -19.40 | -19.41 | -19.35 |
| OMEGA\_O(kHz) | -1.52 | -1.33 | -1.53 | -1.05 | -1.07 | -1.71 | -2.09 | -1.41 | -0.85 |
| OMEGA\_IO(kHz) | -20.70 | -20.58 | -20.50 | -20.23 | -20.33 | -20.88 | -21.49 | -20.82 | -20.19 |
| DEVM Average(%) | 6.24 | 6.24 | 6.19 | 6.24 | 6.16 | 6.18 | 6.29 | 6.28 | 6.38 |
| DEVM Peak(%) | 8.63 | 8.85 | 8.79 | 8.86 | 9.15 | 8.66 | 8.78 | 9.08 | 9.19 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.12 | -0.11 | -0.12 | -0.12 | -0.12 | -0.12 | -0.12 | -0.12 | -0.12 |
| **Pass/Fail** | pass | pass | pass | pass | pass | pass | pass | pass | pass |
| Power by channel | bt_pwr_3M_DH5_1010 | | | | | | | | |
| Init Freq Error by channel | bt_Init_Freq_Err_3M_DH5_1010 | | | | | | | | |
| DEVM Average(%) by channel | bt_EdrEVMAv_3M_DH5_1010 | | | | | | | | |
| DEVM Peak(%) | bt_EdrEVMpk_3M_DH5_1010 | | | | | | | | |
| EdrPowDiffdB by channel | bt_EdrPowDiffdB_3M_DH5_1010 | | | | | | | | |
| **Note:** | **3M\_DH5\_1010 meets the test requirements** | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 15 | | | | | | | | | |
| Data rate | 3M\_DH5\_00001111 | | | | | | | | |
| Channel | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 78 |
| Frequency | 2402 | 2412 | 2422 | 2432 | 2442 | 2452 | 2462 | 2472 | 2480 |
| Output Power(dBm) | -9.46 | -9.24 | -9.15 | -9.27 | -9.05 | -9.13 | -9.18 | -9.00 | -8.72 |
| Init Freq Error(kHz) | -21.26 | -18.75 | -19.59 | -21.55 | -18.50 | -19.15 | -21.56 | -18.90 | -20.06 |
| OMEGA\_I(kHz) | -19.60 | -18.87 | -18.71 | -19.53 | -18.78 | -19.09 | -19.43 | -19.42 | -19.91 |
| OMEGA\_O(kHz) | -1.98 | -1.78 | -2.17 | -1.13 | -2.33 | -1.80 | -1.38 | -1.29 | -2.11 |
| OMEGA\_IO(kHz) | -21.58 | -20.65 | -20.88 | -20.66 | -21.11 | -20.89 | -20.81 | -20.71 | -22.02 |
| DEVM Average(%) | 3.59 | 4.52 | 4.45 | 4.06 | 4.66 | 3.95 | 4.14 | 3.99 | 4.50 |
| DEVM Peak(%) | 6.79 | 7.92 | 7.62 | 6.89 | 8.09 | 7.00 | 6.92 | 6.89 | 8.36 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.13 | -0.13 | -0.11 | -0.10 | -0.11 | -0.10 | -0.11 | -0.11 | -0.11 |
| **Pass/Fail** | pass | pass | pass | pass | pass | pass | pass | pass | pass |
| Power by channel | bt_pwr_3M_DH5_00001111 | | | | | | | | |
| Init Freq Error by channel | bt_Init_Freq_Err_3M_DH5_00001111 | | | | | | | | |
| DEVM Average(%) by channel | bt_EdrEVMAv_3M_DH5_00001111 | | | | | | | | |
| DEVM Peak(%) | bt_EdrEVMpk_3M_DH5_00001111 | | | | | | | | |
| EdrPowDiffdB by channel | bt_EdrPowDiffdB_3M_DH5_00001111 | | | | | | | | |
| **Note:** | **3M\_DH5\_00001111 meets the test requirements** | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 16 | | | | | | | | | |
| Data rate | 3M\_DH5\_prbs9 | | | | | | | | |
| Channel | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 78 |
| Frequency | 2402 | 2412 | 2422 | 2432 | 2442 | 2452 | 2462 | 2472 | 2480 |
| Output Power(dBm) | -9.44 | -9.22 | -9.15 | -9.26 | -9.06 | -9.12 | -9.18 | -8.99 | -8.71 |
| Init Freq Error(kHz) | -21.43 | -17.89 | -18.87 | -20.53 | -17.89 | -18.89 | -22.15 | -18.65 | -19.65 |
| OMEGA\_I(kHz) | -19.10 | -18.86 | -19.09 | -19.23 | -19.22 | -19.03 | -19.36 | -19.34 | -19.72 |
| OMEGA\_O(kHz) | -1.39 | -1.34 | -1.41 | -0.98 | -0.98 | -1.63 | -1.18 | -1.35 | -1.44 |
| OMEGA\_IO(kHz) | -20.49 | -20.20 | -20.50 | -20.20 | -20.20 | -20.66 | -20.54 | -20.69 | -21.16 |
| DEVM Average(%) | 4.60 | 4.46 | 4.52 | 4.79 | 4.70 | 4.51 | 4.74 | 4.64 | 4.70 |
| DEVM Peak(%) | 9.38 | 9.32 | 9.57 | 9.59 | 9.92 | 9.20 | 9.75 | 9.62 | 9.58 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 |
| **Pass/Fail** | pass | pass | pass | pass | pass | pass | pass | pass | pass |
| Power by channel | bt_pwr_3M_DH5_prbs9 | | | | | | | | |
| Init Freq Error by channel | bt_Init_Freq_Err_3M_DH5_prbs9 | | | | | | | | |
| DEVM Average(%) by channel | bt_EdrEVMAv_3M_DH5_prbs9 | | | | | | | | |
| DEVM Peak(%) | bt_EdrEVMpk_3M_DH5_prbs9 | | | | | | | | |
| EdrPowDiffdB by channel | bt_EdrPowDiffdB_3M_DH5_prbs9 | | | | | | | | |
| **Note:** | **3M\_DH5\_prbs9 meets the test requirements** | | | | | | | | |

2.5 BLE TX

Requirement

|  |  |
| --- | --- |
| Table 17 | |
| Specification | Requirement |
| Frequency range(MHz) | (2400,2483.5) |
| Output Power(dBm) | (-3, +3) @power\_level=4； |
| Init Freq Error(kHz) | (-150kHz,+150kHz) |
| deltaF2Max(kHz) | (185kHz ,500kHz)(at least 99%) |
| deltaF2Avg(kHz) | (180kHz, 500kHz) |
| deltaF1Avg(kHz) | (225kH, 275kHz) |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table1 18 | | | | | | | | | |
| Data rate | LE\_1010 | | | | | | | | |
| Channel | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 39 |
| Frequency | 2402 | 2412 | 2422 | 2432 | 2442 | 2452 | 2462 | 2472 | 2480 |
| Output Power(dBm) | -9.63 | -9.45 | -9.42 | -9.50 | -9.61 | -9.30 | -9.07 | -8.90 | -8.74 |
| Init Freq Error(kHz) | -17.55 | -20.05 | -19.54 | -18.15 | -20.28 | -19.79 | -18.45 | -20.34 | -19.54 |
| deltaF2Max(kHz) | 226.01 | 225.46 | 226.52 | 226.55 | 227.24 | 224.01 | 223.88 | 224.01 | 226.82 |
| deltaF2Avg(kHz) | 218.92 | 219.29 | 220.64 | 219.68 | 220.71 | 217.52 | 217.46 | 217.58 | 220.64 |
| **Pass/Fail** | pass | pass | pass | pass | pass | pass | pass | pass | pass |
| Power by channel | bt_pwr_LE_1010 | | | | | | | | |
| Init Freq Error by channel | bt_Init_Freq_Err_LE_1010 | | | | | | | | |
| deltaF2Max by channel | bt_deltaF2Max_LE_1010 | | | | | | | | |
| deltaF2Avg by channel | bt_deltaF2Avg_LE_1010_pwr | | | | | | | | |
| **Note：** | **LE\_1010 meets the test requirements** | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table1 19 | | | | | | | | | |
| Data rate | LE\_00001111 | | | | | | | | |
| Channel | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 39 |
| Frequency | 2402 | 2412 | 2422 | 2432 | 2442 | 2452 | 2462 | 2472 | 2480 |
| Output Power(dBm) | -9.66 | -9.44 | -9.37 | -9.50 | -9.54 | -9.35 | -9.14 | -8.95 | -8.67 |
| Init Freq Error(kHz) | -17.85 | -20.05 | -19.79 | -18.41 | -20.27 | -19.61 | -18.64 | -20.22 | -19.78 |
| deltaF1Avg(kHz) | 243.43 | 241.93 | 243.51 | 243.73 | 242.82 | 242.47 | 242.77 | 241.20 | 241.77 |
| **Pass/Fail** | pass | pass | pass | pass | pass | pass | pass | pass | pass |
| Power by channel | bt_pwr_LE_00001111 | | | | | | | | |
| Init Freq Error by channel | bt_Init_Freq_Err_LE_00001111 | | | | | | | | |
| deltaF1Avg by channel | bt_deltaF1Avg_LE_00001111 | | | | | | | | |
| **Note：** | **LE\_00001111 meets the test requirements** | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table1 20 | | | | | | | | | |
| Data rate | LE\_prbs9 | | | | | | | | |
| Channel | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 39 |
| Frequency | 2402 | 2412 | 2422 | 2432 | 2442 | 2452 | 2462 | 2472 | 2480 |
| Output Power(dBm) | -9.66 | -9.45 | -9.37 | -9.50 | -9.55 | -9.36 | -9.14 | -8.96 | -8.68 |
| Init Freq Error(kHz) | -18.20 | -20.14 | -19.40 | -17.98 | -19.87 | -20.11 | -18.45 | -20.69 | -19.07 |
| **Pass/Fail** | pass | pass | pass | pass | pass | pass | pass | pass | pass |
| Power by channel | bt_pwr_LE_prbs9 | | | | | | | | |
| Init Freq Error by channel | bt_Init_Freq_Err_LE_prbs9 | | | | | | | | |
| **Note:** | **LE\_prbs9 meets the test requirements** | | | | | | | | |