

**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 |
| PCB Version: | V2 |
| Sample number: | #1 |
| Test Engineer: | hujinping |
| Test Date: | 10/26/18 16:21:11 |
| 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

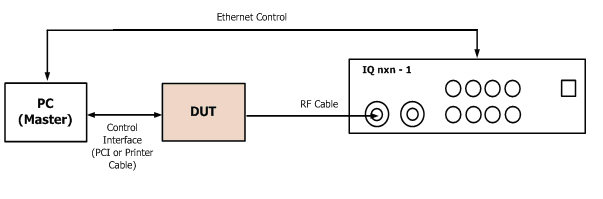
|  |  |  |
| --- | --- | --- |
| Table 4 | | |
| No. | Test Items | Pass/Fail |
| 1 | BR sensitivity | pass |
| 2 | 2M EDR sensitivity | pass |
| 3 | 3M EDR sensitivity | pass |
| 3 | BLE sensitivity | pass |

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) | -6.45 | -6.24 | -6.17 | -6.24 | -5.95 | -6.13 | -6.11 | -5.88 | -5.52 |
| Init Freq Error(KHz) | -21.24 | -18.72 | -19.32 | -21.91 | -18.78 | -19.14 | -21.72 | -18.95 | -20.43 |
| deltaF2Max(kHz) | 147.75 | 147.29 | 147.10 | 145.94 | 143.38 | 147.60 | 145.67 | 145.16 | 143.64 |
| deltaF2Avg(kHz) | 141.68 | 140.68 | 140.58 | 139.39 | 136.77 | 140.84 | 139.63 | 138.59 | 137.70 |
| **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) | -6.50 | -6.26 | -6.10 | -6.29 | -6.05 | -6.16 | -6.17 | -6.01 | -5.61 |
| Init Freq Error(KHz) | -21.69 | -18.30 | -19.07 | -22.05 | -18.94 | -19.36 | -21.58 | -19.24 | -19.68 |
| deltaF1Avg(kHz) | 157.36 | 156.57 | 153.38 | 155.88 | 153.59 | 156.78 | 156.72 | 157.59 | 153.76 |
| **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) | -6.45 | -6.26 | -6.18 | -6.30 | -6.11 | -6.14 | -6.16 | -5.96 | -5.67 |
| Init Freq Error(KHz) | -21.94 | -18.50 | -19.73 | -22.60 | -19.25 | -19.46 | -22.03 | -19.27 | -20.31 |
| Bandwidth20dB(kHz) | 910.00 | 910.00 | 875.00 | 900.00 | 895.00 | 860.00 | 870.00 | 870.00 | 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) | -6.59 | -6.39 | -6.31 | -6.44 | -6.25 | -6.28 | -6.30 | -6.10 | -5.81 |
| Init Freq Error(kHz) | -21.87 | -18.53 | -19.78 | -22.37 | -19.13 | -19.31 | -21.95 | -19.32 | -20.30 |
| OMEGA\_I(kHz) | -19.68 | -19.35 | -19.68 | -20.01 | -19.76 | -19.69 | -20.04 | -20.56 | -20.16 |
| OMEGA\_O(kHz) | -1.51 | -1.29 | -1.62 | -1.94 | -2.02 | -2.00 | -2.40 | -1.93 | -2.11 |
| OMEGA\_IO(kHz) | -21.19 | -20.64 | -21.30 | -21.94 | -21.78 | -21.69 | -22.44 | -22.49 | -22.27 |
| DEVM Average(%) | 3.76 | 3.73 | 3.70 | 3.67 | 3.79 | 3.72 | 3.92 | 3.85 | 3.81 |
| DEVM Peak(%) | 6.17 | 6.04 | 5.83 | 5.81 | 6.24 | 5.97 | 6.17 | 6.13 | 6.14 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.17 | -0.18 | -0.17 | -0.16 | -0.17 | -0.19 | -0.16 | -0.15 | -0.17 |
| **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) | -6.65 | -6.44 | -6.37 | -6.49 | -6.30 | -6.32 | -6.34 | -6.14 | -5.84 |
| Init Freq Error(kHz) | -21.47 | -18.93 | -19.06 | -20.98 | -18.70 | -20.14 | -22.76 | -18.89 | -19.77 |
| OMEGA\_I(kHz) | -20.10 | -19.34 | -19.59 | -20.02 | -20.25 | -19.03 | -20.29 | -19.91 | -19.95 |
| OMEGA\_O(kHz) | -2.29 | -1.35 | -1.80 | -1.68 | -1.97 | -2.29 | -3.12 | -1.05 | -1.91 |
| OMEGA\_IO(kHz) | -22.38 | -20.68 | -21.38 | -21.69 | -22.22 | -21.32 | -23.41 | -20.96 | -21.86 |
| DEVM Average(%) | 4.62 | 4.93 | 4.64 | 4.54 | 4.59 | 4.66 | 4.51 | 4.63 | 4.82 |
| DEVM Peak(%) | 8.20 | 8.59 | 8.00 | 8.53 | 8.25 | 7.69 | 7.86 | 8.58 | 8.33 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.20 | -0.21 | -0.20 | -0.22 | -0.19 | -0.24 | -0.20 | -0.22 | -0.23 |
| **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) | -6.56 | -6.36 | -6.28 | -6.41 | -6.22 | -6.24 | -6.25 | -6.05 | -5.76 |
| Init Freq Error(kHz) | -21.40 | -18.76 | -19.97 | -22.19 | -19.01 | -19.43 | -21.84 | -18.76 | -19.89 |
| OMEGA\_I(kHz) | -19.94 | -19.70 | -19.62 | -20.08 | -20.00 | -19.52 | -20.00 | -20.59 | -20.08 |
| OMEGA\_O(kHz) | -2.10 | -2.05 | -1.61 | -1.87 | -1.71 | -1.66 | -1.50 | -2.91 | -1.74 |
| OMEGA\_IO(kHz) | -22.04 | -21.75 | -21.23 | -21.96 | -21.71 | -21.18 | -21.51 | -23.51 | -21.82 |
| DEVM Average(%) | 4.92 | 4.96 | 4.86 | 4.77 | 4.78 | 4.96 | 4.98 | 5.35 | 5.11 |
| DEVM Peak(%) | 10.60 | 10.62 | 10.27 | 10.18 | 10.18 | 10.39 | 10.42 | 11.27 | 10.73 |
| 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 | -0.13 | -0.12 | -0.11 | -0.13 |
| **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) | -6.57 | -6.37 | -6.29 | -6.42 | -6.23 | -6.26 | -6.27 | -6.07 | -5.77 |
| Init Freq Error(kHz) | -22.18 | -18.85 | -19.84 | -21.54 | -18.96 | -19.80 | -21.63 | -19.51 | -20.58 |
| OMEGA\_I(kHz) | -19.74 | -19.35 | -19.34 | -19.56 | -19.76 | -19.57 | -19.55 | -20.06 | -20.03 |
| OMEGA\_O(kHz) | -1.44 | -1.54 | -1.48 | -1.51 | -1.56 | -1.91 | -1.72 | -1.51 | -1.18 |
| OMEGA\_IO(kHz) | -21.17 | -20.89 | -20.81 | -21.07 | -21.32 | -21.49 | -21.27 | -21.57 | -21.22 |
| DEVM Average(%) | 6.56 | 6.60 | 6.56 | 6.54 | 6.43 | 6.45 | 6.51 | 6.47 | 6.56 |
| DEVM Peak(%) | 9.80 | 9.89 | 9.85 | 9.72 | 9.58 | 9.44 | 9.41 | 9.80 | 9.99 |
| 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 | -0.13 | -0.14 | -0.13 | -0.14 | -0.14 | -0.12 | -0.13 |
| **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) | -6.56 | -6.37 | -6.30 | -6.43 | -6.21 | -6.28 | -6.26 | -6.06 | -5.78 |
| Init Freq Error(kHz) | -21.76 | -19.39 | -19.44 | -22.00 | -18.00 | -19.84 | -21.79 | -19.51 | -21.05 |
| OMEGA\_I(kHz) | -19.39 | -19.34 | -19.59 | -19.77 | -19.67 | -19.87 | -19.70 | -19.81 | -20.51 |
| OMEGA\_O(kHz) | -1.43 | -1.14 | -2.52 | -1.77 | -1.35 | -1.69 | -2.62 | -2.15 | -2.37 |
| OMEGA\_IO(kHz) | -20.82 | -20.49 | -22.11 | -21.54 | -21.02 | -21.56 | -22.33 | -21.96 | -22.89 |
| DEVM Average(%) | 4.48 | 4.42 | 4.49 | 4.15 | 4.55 | 4.79 | 5.02 | 5.18 | 4.49 |
| DEVM Peak(%) | 7.26 | 7.50 | 7.87 | 6.97 | 7.73 | 7.95 | 8.13 | 8.33 | 7.89 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.11 | -0.13 | -0.13 | -0.13 | -0.13 | -0.15 | -0.12 | -0.12 | -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) | -6.56 | -6.35 | -6.28 | -6.42 | -6.22 | -6.25 | -6.28 | -6.08 | -5.78 |
| Init Freq Error(kHz) | -22.70 | -18.81 | -19.26 | -22.23 | -19.66 | -19.56 | -22.23 | -18.96 | -19.86 |
| OMEGA\_I(kHz) | -19.26 | -19.11 | -19.44 | -20.03 | -19.70 | -19.85 | -20.22 | -20.06 | -20.34 |
| OMEGA\_O(kHz) | -1.75 | -1.44 | -1.92 | -2.00 | -1.88 | -2.13 | -1.72 | -1.20 | -2.51 |
| OMEGA\_IO(kHz) | -21.01 | -20.55 | -21.36 | -22.03 | -21.58 | -21.98 | -21.94 | -21.26 | -22.85 |
| DEVM Average(%) | 5.16 | 5.07 | 4.94 | 5.20 | 5.08 | 5.15 | 5.16 | 4.83 | 5.07 |
| DEVM Peak(%) | 9.81 | 9.99 | 9.95 | 10.13 | 10.37 | 10.16 | 10.67 | 10.21 | 10.03 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.12 | -0.13 | -0.12 | -0.12 | -0.13 | -0.12 | -0.12 | -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) | -6.95 | -6.55 | -6.56 | -6.55 | -6.81 | -6.48 | -6.21 | -6.08 | -5.79 |
| Init Freq Error(kHz) | -17.97 | -20.77 | -19.76 | -18.29 | -20.72 | -20.17 | -18.49 | -20.70 | -19.60 |
| deltaF2Max(kHz) | 231.46 | 224.33 | 226.93 | 224.24 | 229.37 | 225.17 | 223.70 | 224.42 | 225.39 |
| deltaF2Avg(kHz) | 224.28 | 217.89 | 220.73 | 216.92 | 222.54 | 219.08 | 217.12 | 218.38 | 219.52 |
| **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) | -6.80 | -6.60 | -6.53 | -6.65 | -6.70 | -6.49 | -6.27 | -6.07 | -5.77 |
| Init Freq Error(kHz) | -18.34 | -20.41 | -20.32 | -18.73 | -20.58 | -20.22 | -18.72 | -20.38 | -19.55 |
| deltaF1Avg(kHz) | 241.25 | 242.61 | 245.06 | 245.60 | 247.25 | 244.30 | 244.18 | 244.83 | 241.70 |
| **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) | -6.81 | -6.60 | -6.53 | -6.65 | -6.70 | -6.49 | -6.27 | -6.07 | -5.79 |
| Init Freq Error(kHz) | -18.23 | -20.57 | -19.95 | -18.26 | -20.66 | -20.20 | -19.05 | -20.96 | -19.64 |
| **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** | | | | | | | | |