

**Espressif IOT ESP**

**Bluetooth Auto Test Report**

**Version 1.0**

Espressif Systems IOT Team

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A2 Report Revision History:

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

Module&Test Information

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| Table 2 | |
| Module Name: | ESP32\_TestBoard |
| PCB Version: | V2 |
| Sample number: | #1 |
| Test Engineer: | hujinping |
| Test Date: | 10/29/18 11:17:27 |
| Test Place: | Second floor laboratory |
| Test Equipment: | WT200 |
| Test Bin | V146 |
| Cable loss/dB: | 12.8 |
| Backoff(4=1dB): |  |
| Pi match/s11 smith: | 2.0 |
| Note: | |

1. Test Item Summary

1.1. Static Performance

1.1.1. Basic rate TX

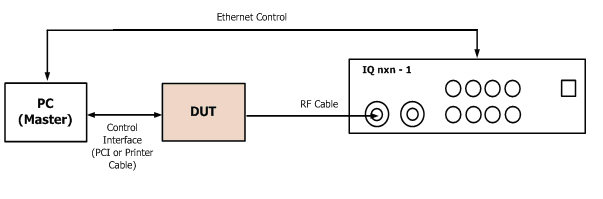
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| Table 3 | | |
| No. | Test Items | Pass/Fail |
| 1 | Basic rate TX | pass |
| 2 | 2M EDR TX | pass |
| 3 | 3M EDR TX | pass |
| 4 | BLE TX | pass |

1. 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

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| 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) |

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| 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) | 8.11 | 8.13 | 8.40 | 8.19 | 8.27 | 8.27 | 8.39 | 8.37 | 8.73 |
| Init Freq Error(KHz) | -22.25 | -19.09 | -20.15 | -22.66 | -20.19 | -20.58 | -23.10 | -20.12 | -20.68 |
| deltaF2Max(kHz) | 146.41 | 148.34 | 143.85 | 145.77 | 146.49 | 146.18 | 144.73 | 146.48 | 144.18 |
| deltaF2Avg(kHz) | 140.05 | 142.07 | 138.02 | 139.51 | 140.17 | 139.90 | 138.68 | 140.06 | 138.39 |
| **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** | | | | | | | | |

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| 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) | 8.11 | 8.28 | 8.29 | 8.19 | 8.29 | 8.27 | 8.33 | 8.48 | 8.68 |
| Init Freq Error(KHz) | -22.55 | -18.49 | -20.79 | -23.04 | -19.94 | -20.49 | -22.94 | -20.14 | -21.09 |
| deltaF1Avg(kHz) | 155.68 | 153.92 | 155.05 | 153.92 | 155.26 | 155.62 | 155.76 | 155.14 | 154.73 |
| **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** | | | | | | | | |

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| 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) | 8.12 | 8.24 | 8.28 | 8.16 | 8.27 | 8.28 | 8.31 | 8.46 | 8.66 |
| Init Freq Error(KHz) | -22.70 | -19.37 | -20.78 | -22.12 | -19.30 | -20.47 | -22.58 | -20.14 | -20.99 |
| Bandwidth20dB(kHz) | 900.00 | 900.00 | 900.00 | 900.00 | 900.00 | 900.00 | 900.00 | 900.00 | 900.00 |
| **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

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| 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) |

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| 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) | 7.97 | 8.11 | 8.16 | 8.04 | 8.16 | 8.13 | 8.16 | 8.32 | 8.56 |
| Init Freq Error(kHz) | -22.55 | -19.72 | -19.58 | -22.70 | -20.00 | -20.57 | -23.35 | -19.69 | -20.60 |
| OMEGA\_I(kHz) | -20.80 | -20.27 | -20.75 | -21.01 | -20.77 | -20.72 | -21.35 | -20.73 | -20.82 |
| OMEGA\_O(kHz) | -1.90 | -2.45 | -2.18 | -2.54 | -1.84 | -2.08 | -2.10 | -1.88 | -2.41 |
| OMEGA\_IO(kHz) | -22.69 | -22.72 | -22.94 | -23.55 | -22.61 | -22.80 | -23.45 | -22.62 | -23.22 |
| DEVM Average(%) | 3.68 | 3.56 | 3.68 | 3.56 | 3.59 | 3.60 | 3.70 | 3.80 | 4.03 |
| DEVM Peak(%) | 5.82 | 5.77 | 5.78 | 5.81 | 6.11 | 5.93 | 5.98 | 6.48 | 6.68 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.19 | -0.20 | -0.20 | -0.21 | -0.21 | -0.22 | -0.19 | -0.23 | -0.24 |
| **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** | | | | | | | | |

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| 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) | 7.95 | 8.06 | 8.10 | 7.98 | 8.14 | 8.12 | 8.15 | 8.29 | 8.52 |
| Init Freq Error(kHz) | -22.66 | -19.14 | -20.23 | -23.09 | -19.87 | -19.75 | -22.77 | -20.24 | -21.45 |
| OMEGA\_I(kHz) | -21.23 | -20.39 | -20.56 | -21.10 | -20.77 | -20.77 | -21.29 | -20.69 | -21.26 |
| OMEGA\_O(kHz) | -2.86 | -1.53 | -2.17 | -2.13 | -1.63 | -2.42 | -2.90 | -1.44 | -2.73 |
| OMEGA\_IO(kHz) | -24.09 | -21.92 | -22.73 | -23.23 | -22.40 | -23.19 | -24.19 | -22.14 | -23.99 |
| DEVM Average(%) | 4.49 | 4.49 | 4.51 | 4.49 | 4.77 | 4.58 | 4.52 | 5.18 | 5.17 |
| DEVM Peak(%) | 7.91 | 8.53 | 7.69 | 7.75 | 8.48 | 8.17 | 7.62 | 9.36 | 9.03 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.24 | -0.26 | -0.25 | -0.25 | -0.27 | -0.27 | -0.25 | -0.27 | -0.26 |
| **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** | | | | | | | | |

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| 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) | 8.03 | 8.15 | 8.19 | 8.07 | 8.19 | 8.17 | 8.24 | 8.38 | 8.60 |
| Init Freq Error(kHz) | -22.51 | -19.67 | -20.26 | -22.64 | -19.71 | -20.00 | -22.11 | -20.05 | -21.22 |
| OMEGA\_I(kHz) | -20.50 | -20.87 | -20.52 | -21.58 | -21.19 | -21.33 | -20.74 | -21.05 | -21.07 |
| OMEGA\_O(kHz) | -2.36 | -2.74 | -2.00 | -3.35 | -1.58 | -2.06 | -1.32 | -1.74 | -2.28 |
| OMEGA\_IO(kHz) | -22.86 | -23.61 | -22.52 | -24.94 | -22.77 | -23.38 | -22.06 | -22.80 | -23.36 |
| DEVM Average(%) | 4.87 | 5.14 | 4.72 | 5.02 | 4.69 | 4.68 | 4.88 | 4.80 | 5.15 |
| DEVM Peak(%) | 10.62 | 11.07 | 10.01 | 10.62 | 10.04 | 10.15 | 10.08 | 10.51 | 10.86 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.17 | -0.16 | -0.17 | -0.16 | -0.15 | -0.15 | -0.18 | -0.16 | -0.18 |
| **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

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| 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) |

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| 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) | 8.00 | 8.15 | 8.17 | 8.05 | 8.20 | 8.18 | 8.21 | 8.36 | 8.60 |
| Init Freq Error(kHz) | -22.42 | -18.71 | -20.02 | -22.66 | -19.17 | -20.37 | -22.74 | -20.85 | -20.51 |
| OMEGA\_I(kHz) | -20.62 | -20.01 | -20.53 | -20.79 | -20.04 | -20.19 | -20.77 | -20.81 | -20.79 |
| OMEGA\_O(kHz) | -1.90 | -1.57 | -1.29 | -2.30 | -2.42 | -2.48 | -1.53 | -2.40 | -0.96 |
| OMEGA\_IO(kHz) | -22.51 | -21.59 | -21.83 | -23.09 | -22.46 | -22.67 | -22.30 | -23.21 | -21.74 |
| DEVM Average(%) | 6.35 | 6.36 | 6.26 | 6.31 | 6.24 | 6.35 | 6.29 | 6.36 | 6.38 |
| DEVM Peak(%) | 9.36 | 9.53 | 9.13 | 9.58 | 9.29 | 9.48 | 9.08 | 9.52 | 9.44 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.18 | -0.19 | -0.17 | -0.17 | -0.19 | -0.18 | -0.20 | -0.19 | -0.19 |
| **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** | | | | | | | | |

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| 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) | 8.03 | 8.14 | 8.20 | 8.08 | 8.16 | 8.22 | 8.24 | 8.38 | 8.59 |
| Init Freq Error(kHz) | -22.22 | -19.69 | -20.18 | -22.37 | -18.81 | -20.15 | -23.08 | -19.50 | -21.61 |
| OMEGA\_I(kHz) | -20.35 | -20.16 | -20.46 | -20.20 | -20.92 | -20.27 | -20.36 | -20.46 | -20.72 |
| OMEGA\_O(kHz) | -1.55 | -1.68 | -2.49 | -1.56 | -1.78 | -2.11 | -1.87 | -2.02 | -1.81 |
| OMEGA\_IO(kHz) | -21.90 | -21.84 | -22.95 | -21.76 | -22.70 | -22.38 | -22.24 | -22.48 | -22.53 |
| DEVM Average(%) | 4.70 | 4.43 | 4.53 | 5.04 | 4.41 | 4.75 | 4.53 | 5.18 | 4.66 |
| DEVM Peak(%) | 7.63 | 7.52 | 7.66 | 8.06 | 7.54 | 7.82 | 7.70 | 8.54 | 8.37 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.16 | -0.17 | -0.18 | -0.17 | -0.18 | -0.16 | -0.15 | -0.17 | -0.18 |
| **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** | | | | | | | | |

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| 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) | 8.02 | 8.14 | 8.18 | 8.05 | 8.20 | 8.20 | 8.22 | 8.37 | 8.59 |
| Init Freq Error(kHz) | -22.03 | -19.46 | -20.35 | -22.71 | -19.78 | -20.26 | -23.00 | -20.55 | -20.63 |
| OMEGA\_I(kHz) | -20.40 | -20.07 | -19.99 | -20.62 | -20.51 | -20.69 | -20.72 | -20.79 | -20.54 |
| OMEGA\_O(kHz) | -1.88 | -2.00 | -2.18 | -1.48 | -1.98 | -1.71 | -1.61 | -1.98 | -2.35 |
| OMEGA\_IO(kHz) | -22.28 | -22.07 | -22.17 | -22.10 | -22.50 | -22.39 | -22.33 | -22.77 | -22.89 |
| DEVM Average(%) | 4.89 | 4.76 | 4.82 | 4.87 | 5.16 | 4.63 | 4.96 | 5.03 | 5.43 |
| DEVM Peak(%) | 9.84 | 9.95 | 9.62 | 10.20 | 10.46 | 9.35 | 10.34 | 10.27 | 11.50 |
| EdrprobEVM99pass(%) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| EdrPowDiffdB(dB) | -0.17 | -0.17 | -0.17 | -0.17 | -0.17 | -0.18 | -0.17 | -0.17 | -0.17 |
| **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

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| 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) |

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| 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) | 7.69 | 7.89 | 7.90 | 7.73 | 7.55 | 7.97 | 8.08 | 8.36 | 8.38 |
| Init Freq Error(kHz) | -18.97 | -21.37 | -21.10 | -19.34 | -21.14 | -21.53 | -20.07 | -21.91 | -20.68 |
| deltaF2Max(kHz) | 229.13 | 225.04 | 225.52 | 227.65 | 229.33 | 223.06 | 226.23 | 222.32 | 227.40 |
| deltaF2Avg(kHz) | 222.04 | 218.56 | 219.69 | 220.32 | 222.72 | 216.81 | 220.39 | 215.85 | 221.31 |
| **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** | | | | | | | | |

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| 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) | 7.72 | 7.84 | 7.87 | 7.76 | 7.66 | 7.87 | 8.11 | 8.26 | 8.46 |
| Init Freq Error(kHz) | -19.54 | -21.52 | -21.17 | -19.70 | -21.66 | -21.33 | -20.00 | -21.93 | -21.29 |
| deltaF1Avg(kHz) | 244.47 | 242.19 | 244.65 | 243.07 | 245.62 | 242.84 | 244.48 | 241.80 | 245.24 |
| **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** | | | | | | | | |

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| 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) | 7.71 | 7.84 | 7.88 | 7.74 | 7.64 | 7.85 | 8.10 | 8.25 | 8.45 |
| Init Freq Error(kHz) | -19.61 | -21.96 | -21.06 | -19.73 | -22.09 | -21.12 | -19.99 | -21.95 | -21.35 |
| **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** | | | | | | | | |