

Version 1.0

**Espressif Adjacent Channel Rejection Test Report**

Espressif Systems IOT Team

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| **Revision Version** | **Date** | **Changes** | **Owner** |
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1. Test Setup



Notes:

1. Configure the instrument setup as the figure above shows.
2. Select the test Channel/BW/Path as tables in this report specified.
3. The adjacent channel rejection shall be measured using the following method. (Please refer to the IEEE Standard for the details of the technology).
4. For OFDM modulation, input an OFDM modulated signal at a level 3 dB greater than sensitivity specified in Table 1. In an adjacent channel (>=20 MHz for 11g/n20 or >=40MHz for 11n40 separation as defined by the channel numbering), input a signal modulated in a similar fashion, which adheres to the transmit mask, to a level x dB above the sensitivity specified in Table 1. The adjacent channel signal shall be derived from a separate signal source. It cannot be a frequency shifted version of the reference channel. Under these conditions, the FER shall be no worse than 10\*10–2.
5. For CCK modulation, input an 11 Mb/s CCK modulated signal at a level 6 dB greater than sensitivity specified in Table 1. In an adjacent channel (>=25 MHz separation as defined by the channel numbering), input a signal modulated in a similar fashion, which adheres to the transmit mask , to a level 41 dB above the sensitivity specified in Table 1. The adjacent channel signal shall be derived from a separate signal source. It cannot be a frequency shifted version of the reference channel. Under these conditions, the FER shall be no worse than 8\*10–2.
6. Test Specifications

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| **Table 2-1** | | | | |
| **Modulation/Rate** | **Rate** | **ACPR (dB)** | **Sensitivity (dBm)**  **BW=20M** | **Sensitivity (dBm)**  **BW=40M** |
| BPSK/6M/MCS0 | 1/2 | 16 | -82 | -79 |
| BPSK/9M | 3/4 | 15 | -81 | -78 |
| QPSK/12M/MCS1 | 1/2 | 13 | -79 | -76 |
| QPSK/18M/MCS2 | 3/4 | 11 | -77 | -74 |
| 16-QAM/24M/MCS3 | 1/2 | 8 | -74 | -71 |
| 16-QAM/36M/MCS4 | 3/4 | 4 | -70 | -67 |
| 64-QAM/48M/MCS5 | 2/3 | 0 | -66 | -63 |
| 64-QAM/54M/MCS6 | 3/4 | -1 | -65 | -62 |
| 64-QAM/MCS7 | 5/6 | -2 | -64 | -61 |
| CCK 11M | X | 35 | -76 | X |

1. Test Result

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| Table 3-1 | | | | |
| Mode: 11b Bandwidth: 20 MHz | | | | |
| Pass/Fail | pass | pass | pass | Crt. |
| Channel signal/interfere | 1/6 | 7/12 | 13/8 |  |
| CCK\_11M | 37 | 37 | 36 | >= 35 |
| Note: Input Power at Antenna Connectors: 11M:-70dBm, 25M Frequency space for CCK. | | | | |

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| Table 3-2 | | | | |
| Mode: 11b Bandwidth: 20 MHz | | | | |
| Pass/Fail | pass | pass | pass | Crt. |
| Channel signal/interfere | 1/6 | 7/12 | 13/8 |  |
| 54M | 11 | 13 | 12 | >= -1 |
| 48M | 14 | 14 | 14 | >= 0 |
| 36M | 19 | 18 | 17 | >= 4 |
| 24M | 19 | 19 | 19 | >= 8 |
| 18M | 23 | 23 | 22 | >= 11 |
| 12M | 24 | 24 | 23 | >= 13 |
| 9M | 25 | 25 | 25 | >= 15 |
| 6M | 27 | 27 | 27 | >= 16 |
| Note: Input Power at Antenna Connectors: 54M:-62dBm, 48M:-63dBm, 36M:-67dBm, 24M:-71dBm, 18M:-74dBm, 12M:-76dBm, 9M:-78dBm, 6M:-79dBm, 25M Frequency space For 11g | | | | |

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| Table 3-3 | | | | |
| Mode: HT-11n Bandwidth: 20 MHz | | | | |
| Pass/Fail | pass | pass | pass | Crt. |
| Channel signal/interfere | 1/6 | 7/12 | 13/8 |  |
| MCS7 | 12 | 12 | 11 | >= -2 |
| MCS6 | 13 | 13 | 13 | >= -1 |
| MCS5 | 13 | 14 | 13 | >= 0 |
| MCS4 | 18 | 17 | 17 | >= 4 |
| MCS3 | 19 | 19 | 18 | >= 8 |
| MCS2 | 20 | 22 | 21 | >= 11 |
| MCS1 | 25 | 24 | 24 | >= 13 |
| MCS0 | 26 | 27 | 26 | >= 16 |
| Note: Input Power at Antenna Connectors: MCS7:-61dBm, MCS6:-62dBm, MCS5:-63dBm, MCS4:-67dBm, MCS3:-71dBm, MCS2:-74dBm, MCS1:-76dBm, MCS0:-79dBm, 25M Frequency space For 11n-20 | | | | |

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| Table 3-4 | | | | |
| Mode: HT-11n Bandwidth: 40 MHz | | | | |
| Pass/Fail | pass | pass | pass | Crt. |
| Channel signal/interfere | 3/11 | 9/1 | 11/3 |  |
| MCS7 | 4 | 7 | 7 | >= -2 |
| MCS6 | 8 | 8 | 8 | >= -1 |
| MCS5 | 10 | 9 | 9 | >= 0 |
| MCS4 | 13 | 11 | 11 | >= 4 |
| MCS3 | 15 | 10 | 11 | >= 8 |
| MCS2 | 15 | 15 | 13 | >=11 |
| MCS1 | 15 | 14 | 14 | >=13 |
| MCS0 | 18 | 17 | 17 | >=16 |
| Note: Input Power at Antenna Connectors: MCS7:-58dBm, MCS6:-59dBm, MCS5:-60dBm, MCS4:-64dBm, MCS3:-68dBm, MCS2:-71dBm, MCS1:-73dBm, MCS0:-76dBm, 40M Frequency space For 11n-40 | | | | |

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