PADI IoT Stamp

Wi-Fi Performance Test Report

Revision 1.0

PADI IoT Stamp Wi-Fi Performance Test Report

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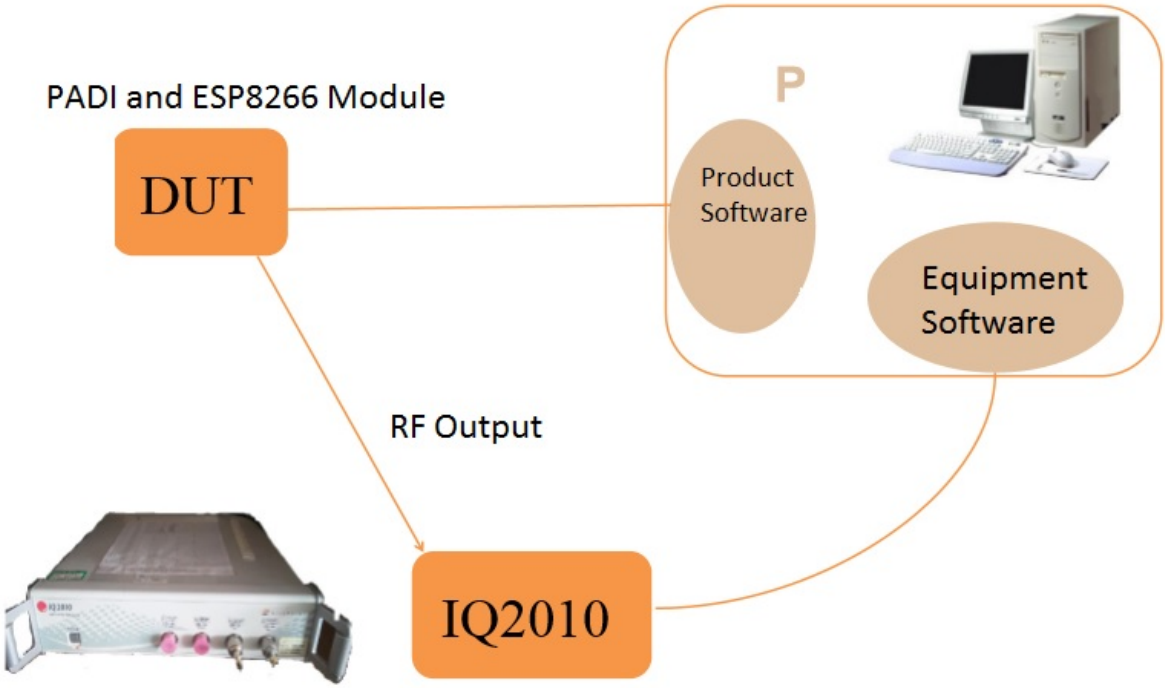
1. Test Setup


PADI and ESP8266 Module
DUT
P
Product Software
Equipment Software
RF Output
IQ2010

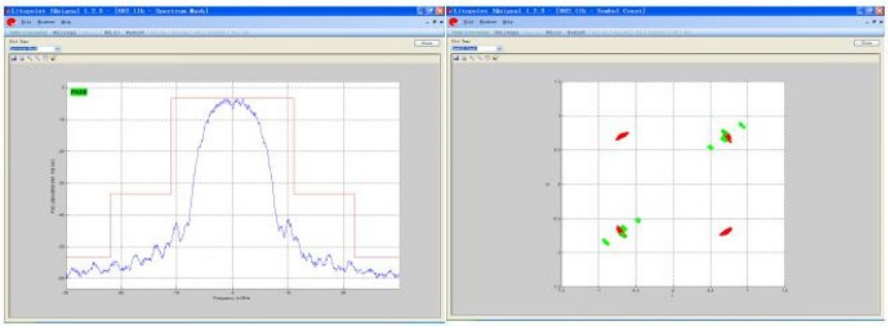
2. Module Wi-Fi Connection Test Data

Due to both module signal test data difference are small, below test data are base on CH1 data with 1dBm compensation.

2.1 PADI and ESP8266 module 802.11b test data

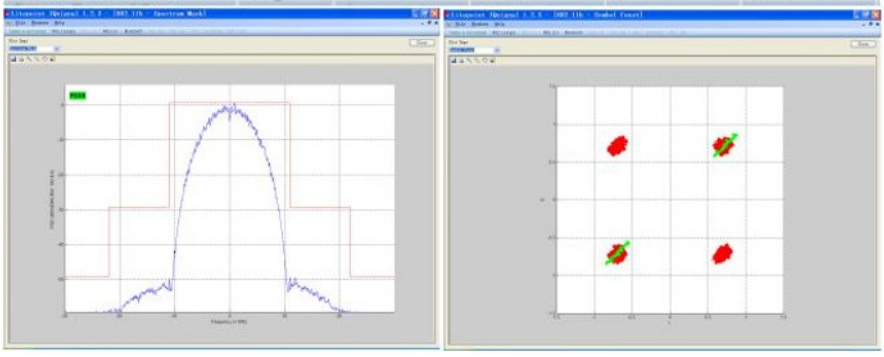
ESP8266 Module Test Data

	Unit	Curr	Avg(1)	Max	Min
Peak Power	dBm	20.13	20.13	20.36	20.05
Avg. Power (all)	dBm	14.07	14.07	14.42	14.07
Avg. Power (no ...	dBm	16.62	16.62	16.97	16.62
LO Leakage	dBc	-38.64	-38.64	-38.18	-41.01
EVM All	dB	-30.47	-30.47	-29.96	-31.06
	%	2.99	2.99	3.18	2.80
EVM Peak	dB	-23.03	-23.03	-20.05	-23.69
	%	7.05	7.05	9.94	6.54
Amplitude Imb.	dB	0.06	0.06	0.09	0.03
Phase Imb.	deg	-0.52	-0.52	-0.41	-0.63
Freq. Error	kHz	-20.47	-20.47	-19.78	-20.49
Sym. Clock	ppm	-8.11	-8.11	-7.58	-8.26
RMS Phase Error	deg	1.58	1.58	1.73	1.46



PADI Module Test Data

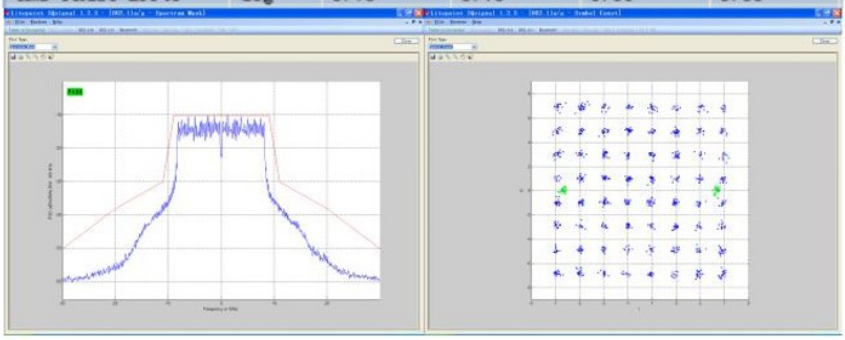
	Unit	Curr	Avg(1)	Max	Min
Peak Power	dBm	20.39	20.39	20.52	20.32
Avg. Power (all)	dBm	17.27	17.27	17.39	17.27
Avg. Power (no ...	dBm	17.32	17.32	17.43	17.32
LO Leakage	dBc	-47.02	-47.02	-42.48	-48.64
EVM All	dB	-27.17	-27.17	-25.18	-27.49
	%	4.38	4.38	5.51	4.22
EVM Peak	dB	-19.36	-19.36	-18.11	-20.72
	%	10.77	10.77	12.43	9.20
Amplitude Imb.	dB	-0.12	-0.12	-0.12	-0.19
Phase Imb.	deg	-0.60	-0.60	-0.19	-0.74
Freq. Error	kHz	-1.08	-1.08	-1.08	-2.47
Sym. Clock	ppm	-1.29	-1.29	0.95	-1.97
RMS Phase Error	deg	1.59	1.59	1.77	1.59



2.2 PADI and ESP8266 module 802.11g test data

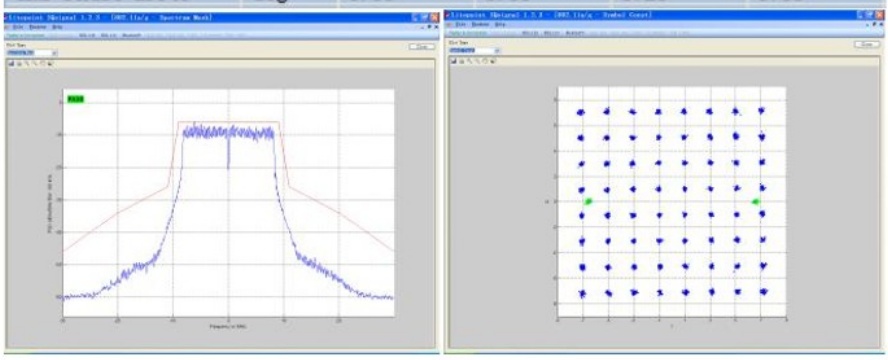
ESP8266 Module Test Data

	Unit	Curr	Avg(1)	Max	Min
Peak Power	dBm	22.51	22.51	22.70	22.02
Avg. Power (all)	dBm	8.12	8.12	8.22	8.05
Avg. Power (no ...	dBm	15.30	15.30	15.39	15.22
LO Leakage	dBc	-34.71	-34.71	-34.71	-39.15
EVM All	dB	-24.96	-24.96	-24.30	-27.63
	%	5.65	5.65	6.10	4.15
EVM Data	dB	-24.89	-24.89	-24.22	-27.50
	%	5.70	5.70	6.15	4.22
EVM Pilots	dB	-25.90	-25.90	-24.65	-29.70
	%	5.07	5.07	5.85	3.27
Amplitude Imb.	dB	-0.06	-0.06	0.18	-0.12
Phase Imb.	deg	-1.09	-1.09	0.42	-1.41
Freq. Error	kHz	-18.29	-18.29	-18.24	-18.41
Sym. Clock	ppm	-7.91	-7.91	3.83	-17.56
RMS Phase Error	deg	0.76	0.76	1.51	0.66



PADI Module Test Data

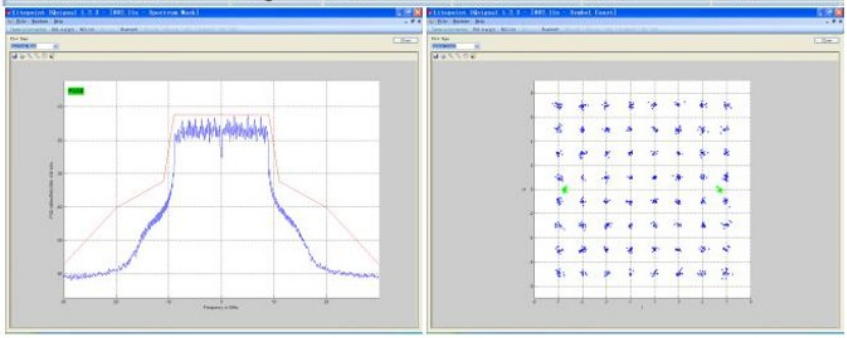
	Unit	Curr	Avg(1)	Max	Min
Peak Power	dBm	24.77	24.77	24.79	22.89
Avg. Power (all)	dBm	13.78	13.78	13.79	11.31
Avg. Power (no ...	dBm	15.15	15.15	15.16	12.68
LO Leakage	dBc	-39.58	-39.58	-36.23	-46.08
EVM All	dB	-30.19	-30.19	-28.83	-32.53
	%	3.09	3.09	3.62	2.36
EVM Data	dB	-30.15	-30.15	-28.73	-32.41
	%	3.11	3.11	3.66	2.40
EVM Pilots	dB	-30.73	-30.73	-29.75	-34.24
	%	2.91	2.91	3.26	1.94
Amplitude Imb.	dB	-0.12	-0.12	-0.02	-0.16
Phase Imb.	deg	0.25	0.25	0.51	-0.19
Freq. Error	kHz	-1.57	-1.57	-1.53	-1.59
Sym. Clock	ppm	-0.52	-0.52	-0.15	-1.78
RMS Phase Error	deg	0.86	0.86	1.28	0.69



2.2 PADI and ESP8266 module 802.11n test data

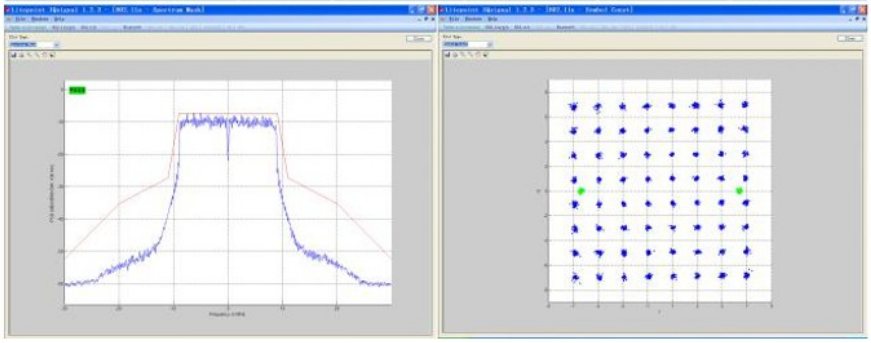
ESP8266 Module Test Data

	Unit	Curr (V...	Avg[VS...	Max (VSA1)	Min (VSA1)
Peak Power	dBm	20.76	20.76	21.82	19.89
Avg. Power (all)	dBm	5.30	5.30	5.43	5.21
Avg. Power (no ...	dBm	12.30	12.30	12.43	12.21
	Unit	Curr (S...	Avg[St...	Max (Str1)	Min (Str1)
DC Leakage	dBc	-40.88	-40.88	-36.84	-44.61
EVM All	dB	-32.59	-32.59	-27.43	-33.58
	%	2.35	2.35	4.25	2.09
Amplitude Imb.	dB	0.02	0.02	0.05	-0.05
Phase Imb.	deg	-0.45	-0.45	-0.14	-0.64
Power VSA #1	dBm	12.31	12.31	12.37	12.29
All Streams	Unit	Curr	Avg	Max	Min
Freq. Error	kHz	-15.86	-15.86	-15.66	-15.89
Sym. Clock	ppm	-10.51	-10.51	3.44	-12.93
RMS Phase Error	deg	0.34	0.34	0.82	0.21



PADI Module Test Data

	Unit	Curr (V...	Avg[VS...	Max (VSA1)	Min (VSA1)
Peak Power	dBm	23.05	23.05	23.57	22.95
Avg. Power (all)	dBm	12.25	12.25	12.26	12.25
Avg. Power (no ...	dBm	14.28	14.28	14.29	14.28
	Unit	Curr (S...	Avg[St...	Max (Str1)	Min (Str1)
DC Leakage	dBc	-48.70	-48.70	-39.28	-49.58
EVM All	dB	-30.90	-30.90	-30.20	-31.41
	%	2.85	2.85	3.09	2.69
Amplitude Imb.	dB	-0.05	-0.05	-0.04	-0.07
Phase Imb.	deg	0.18	0.18	0.20	0.05
Power VSA #1	dBm	14.46	14.46	14.47	14.44
All Streams	Unit	Curr	Avg	Max	Min
Freq. Error	kHz	-1.52	-1.52	-1.51	-1.57
Sym. Clock	ppm	-0.22	-0.22	0.42	-0.37
RMS Phase Error	deg	0.66	0.66	0.93	0.55



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