

TITLE: U-Power500D Testing Report

Doc. #: PE-ZB-2701

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Date: 2012.07.04

Category:

- Testing Summary Report
- Ra Report
- EVB Testing Report
- Qualification Testing Report
- Topic Testing Report
- Lot Testing Report
- Others Testing Report

U-Power500D Testing Report

1.0 Test Setup

The test methodology and the test configuration for U-Power500D are briefly described as below:

- ✓ Module: U-Power500D
- ✓ Test Conditions: 3.0V~3.6V, -40°C, 25°C, 85°C

2.0 Test Results

2.1 TX Power/ EVM performance

The power testing results at different temperature and different voltage are showed as Figure 2.1(1)~(3). The EVM testing results are showed as Figure 2.1(4)~ (6). The performances are good.

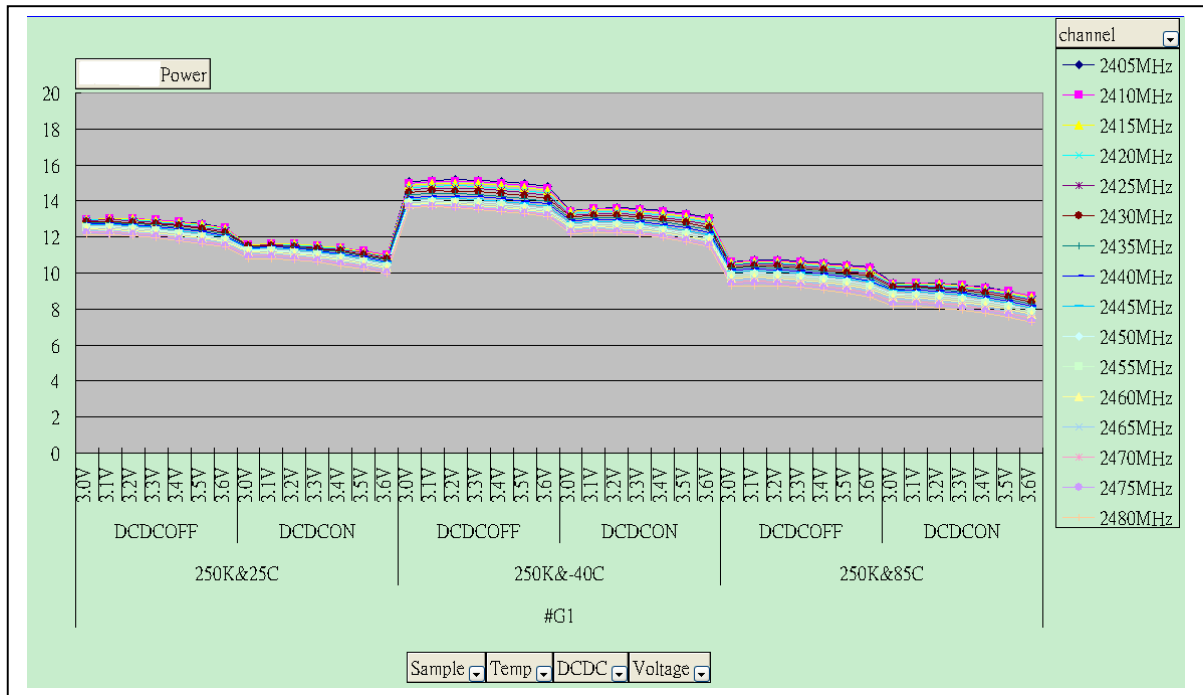


Figure 2.1(1) Sample#G1 Power testing results at different voltage and different temperature.

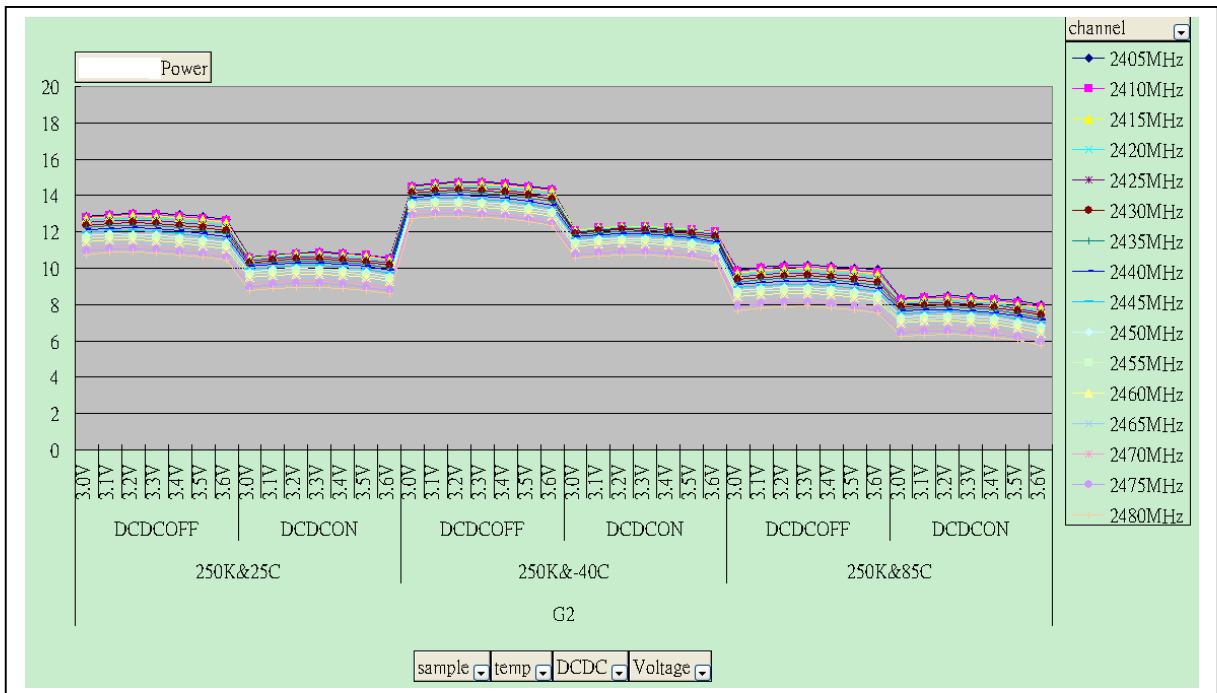


Figure 2.1(2) Sample#G2 Power testing results at different voltage and different temperature.

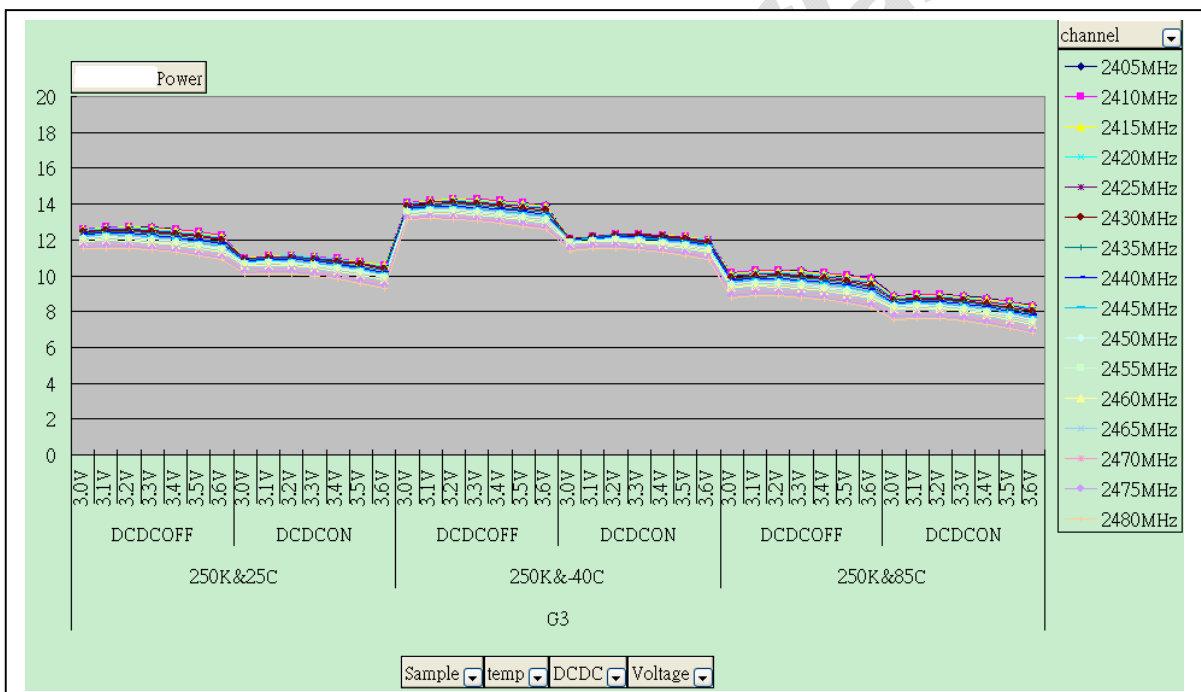


Figure 2.1(3) Sample#G3 Power testing results at different voltage and different temperature.

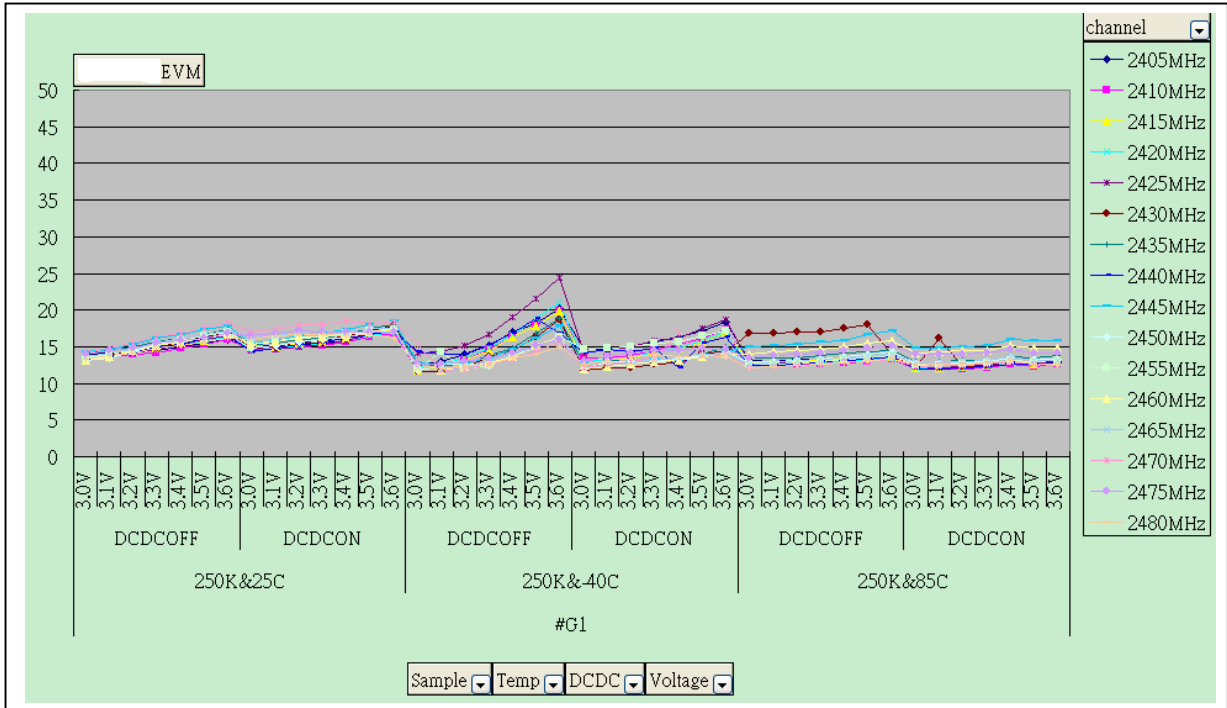


Figure 2.1(4) Sample#G1 EVM testing results at different voltage and different temperature.

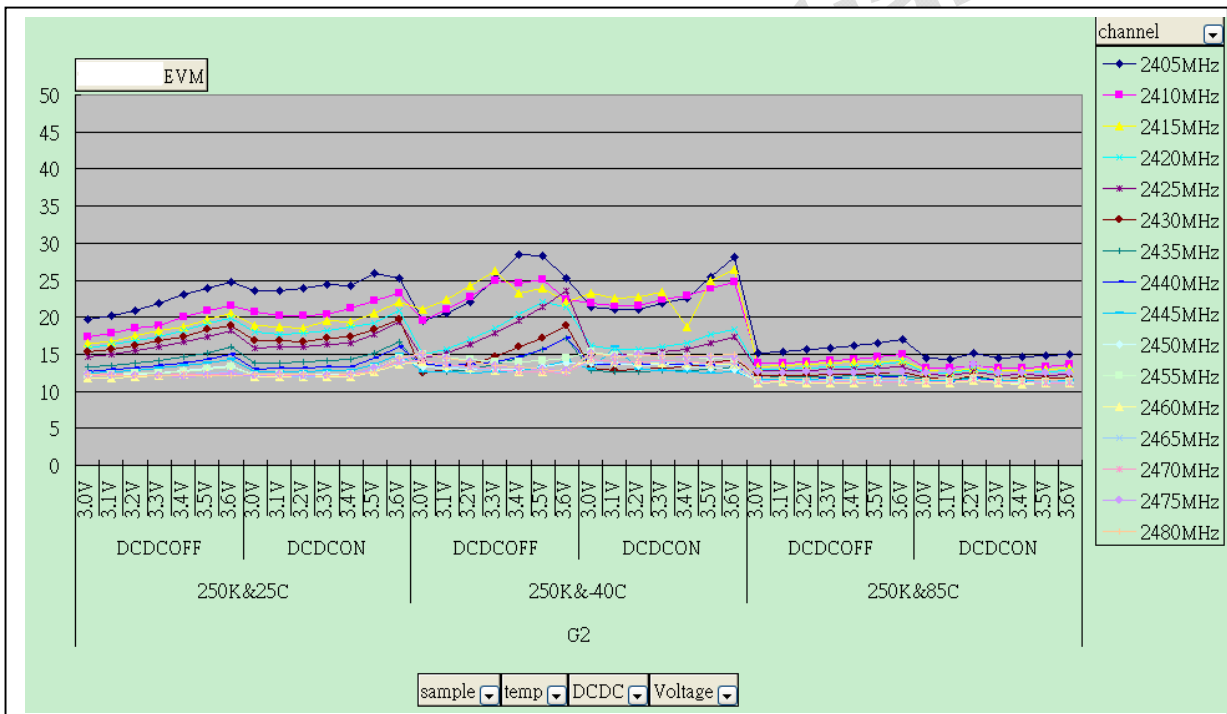


Figure 2.1(5) Sample#G2 EVM testing results at different voltage and different temperature.

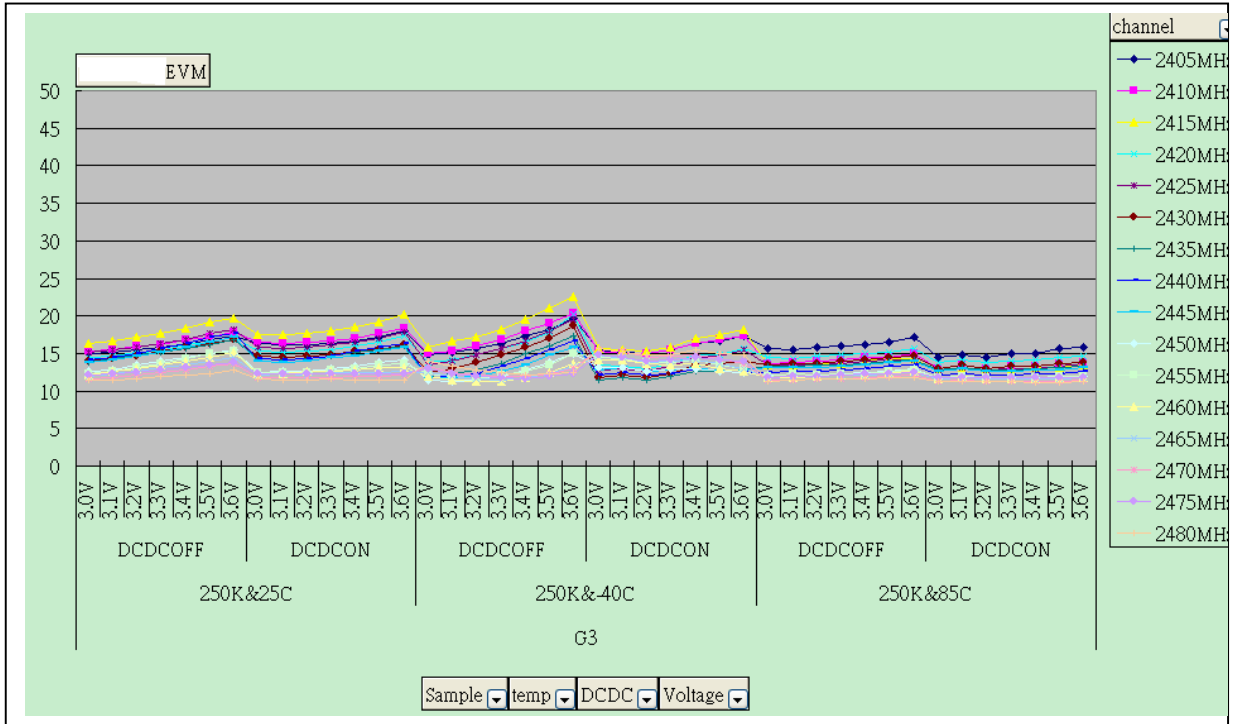


Figure 2.1(6) Sample#G3 EVM testing results at different voltage and different temperature.

2.2 Sensitivity performance

Figure 2.2(1)~(3) show sensitivity testing results at different temperature and different voltage.

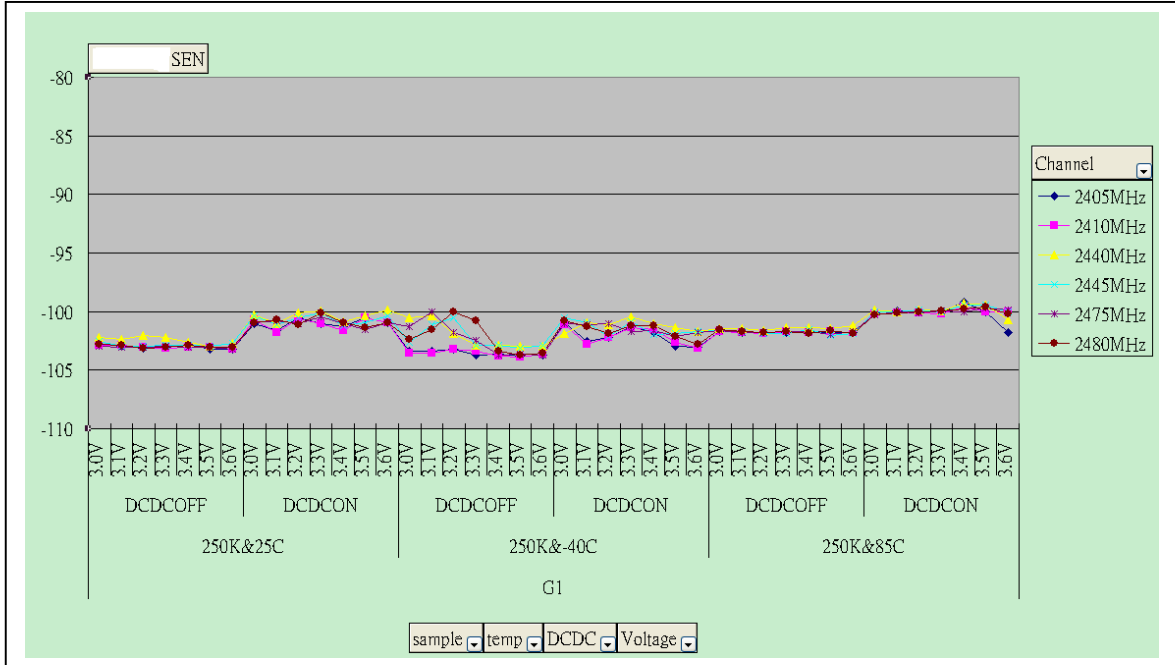


Figure 2.2(1) Sample#G1 sensitivity testing results at different voltage and different temperature.

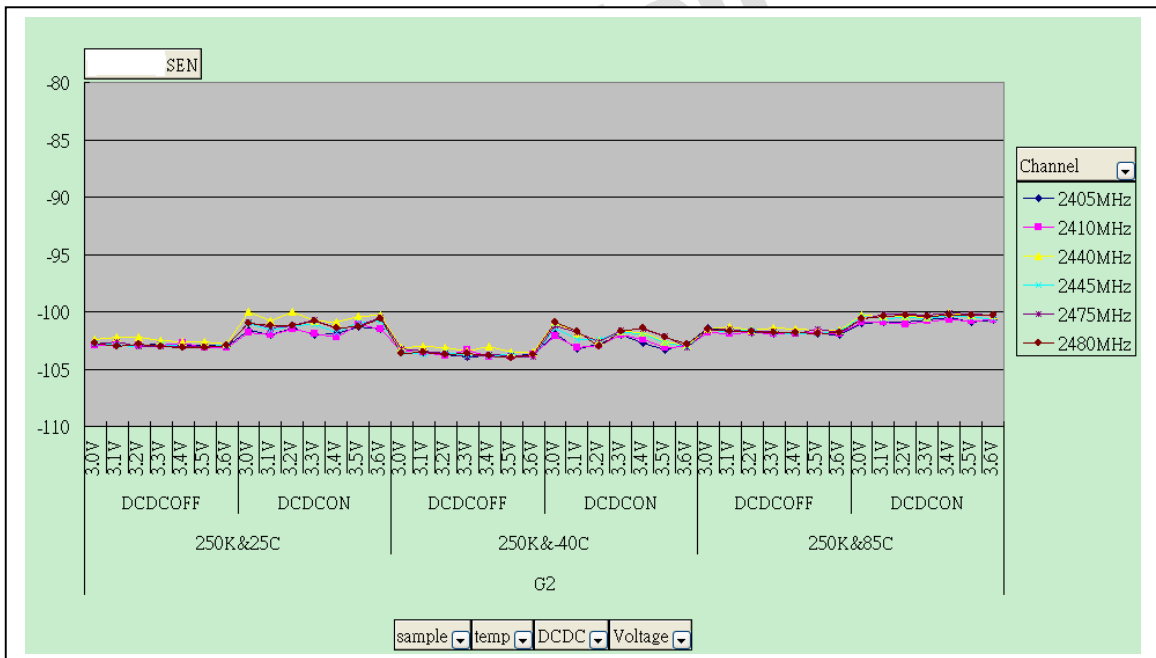


Figure 2.2(2) Sample#G2 sensitivity testing results at different voltage and different temperature.

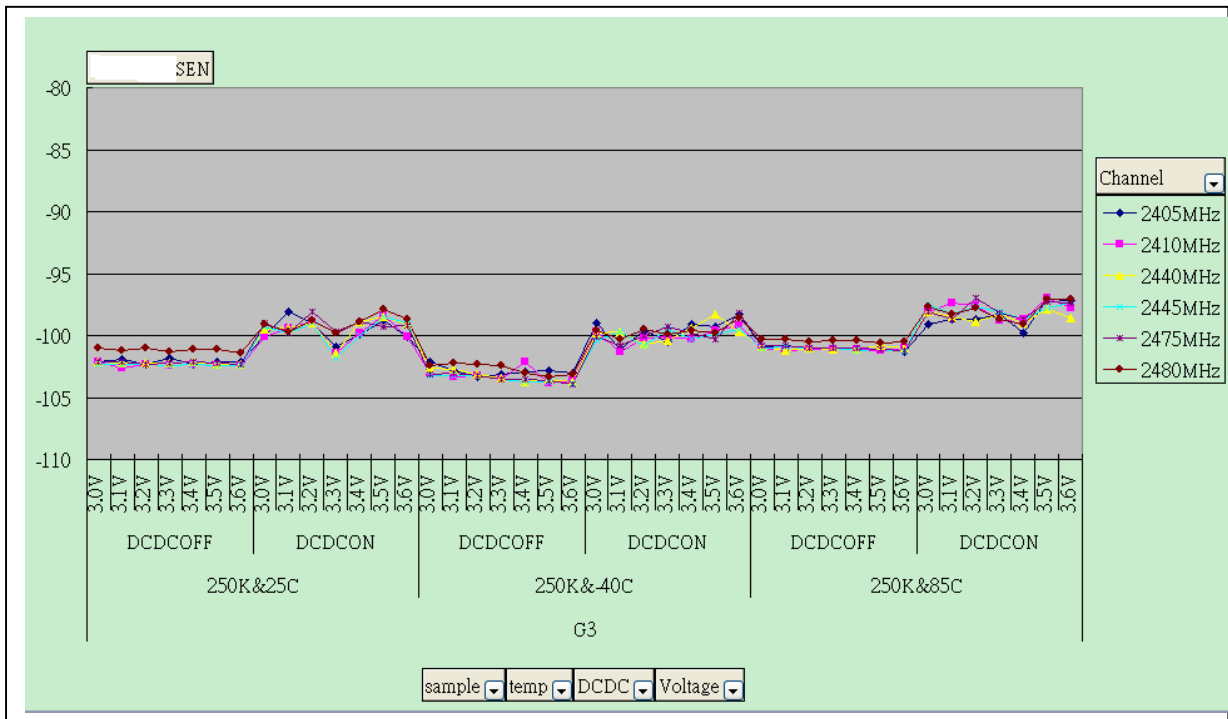


Figure 2.2(3) Sample#G3 sensitivity testing results at different voltage and different temperature.

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2.3 Current

2.3.1 TX current

Figure 2.3(1) show TX current testing results at different temperature and different voltage.

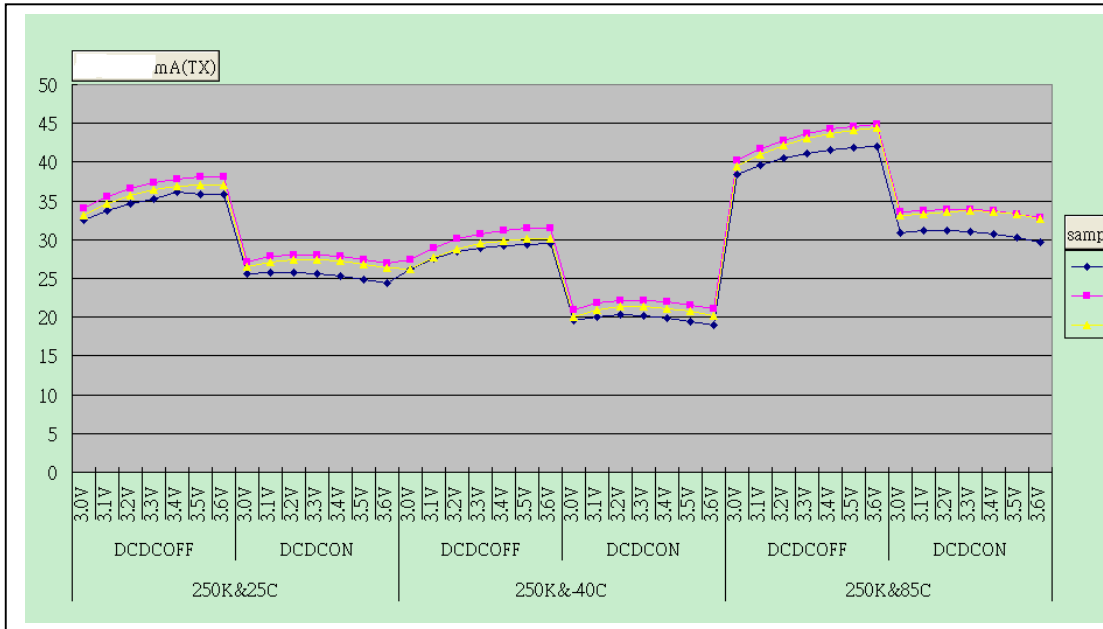


Figure 2.3(1) TX current testing results at different voltage and different temperature on U-powr500D.

2.3.2 RX current

Figure 2.3(2) show RX current testing results at different temperature and different voltage.

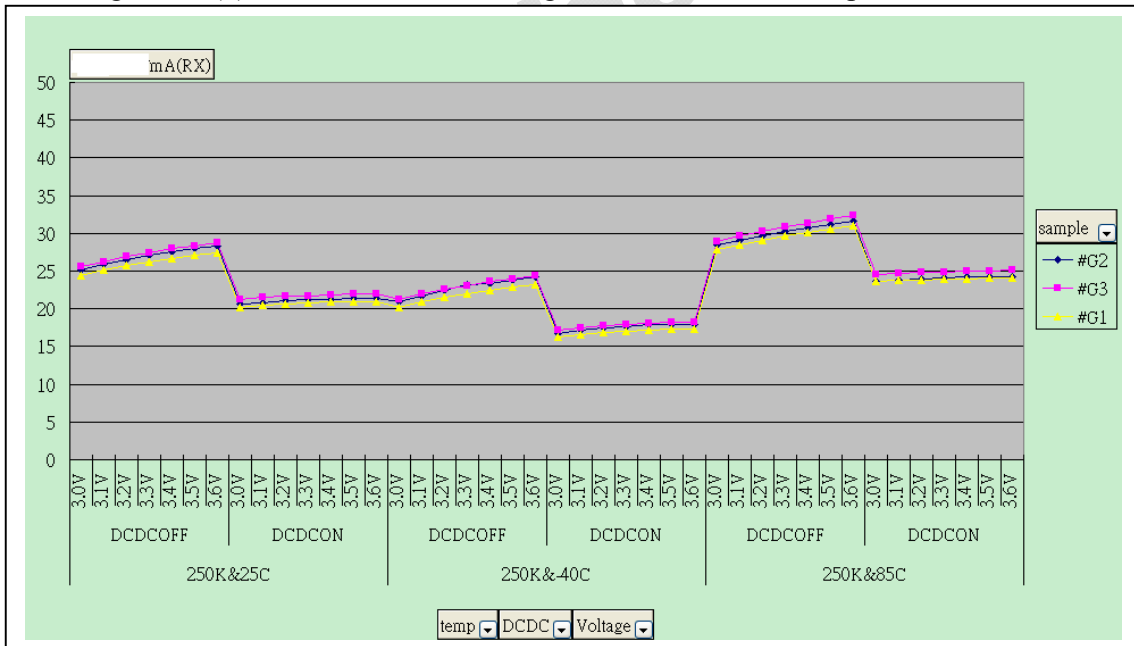


Figure 2.3(2) Rx current testing results at different voltage and different temperature on U-power500D.

2.3.3 Standby sleep current

The current testing results at different temperature and different voltage are shown as below tables. Table 2.3(1) is standby sleep current testing , table 2.3(2) is deep sleep current testing and table 2.3(3) is powerdown current testing.

Table 2.3(1) Standby sleep current testing results. (Unit: uA)				
temp	Voltage	#G1	#G2	#G3
25C	3.0V	4.92	4.88	5.50
25C	3.1V	5.18	5.16	5.82
25C	3.2V	4.58	5.59	6.25
25C	3.3V	4.82	4.92	5.47
25C	3.4V	5.02	5.26	5.73
25C	3.5V	5.44	5.79	6.17
25C	3.6V	5.89	6.52	6.73
-40C	3.0V	1.05	1.16	1.27
-40C	3.1V	0.96	1.28	1.33
-40C	3.2V	1.06	1.04	1.49
-40C	3.3V	1.02	1.12	1.28
-40C	3.4V	1.18	1.21	1.31
-40C	3.5V	1.22	1.34	1.37
-40C	3.6V	1.33	1.49	1.62
85C	3.0V	61.88	57.00	62.96
85C	3.1V	64.60	59.36	65.33
85C	3.2V	58.76	62.33	68.38
85C	3.3V	61.87	56.98	71.75
85C	3.4V	65.70	60.47	65.33
85C	3.5V	70.74	65.32	69.99
85C	3.6V	77.69	71.84	76.19

Table 2.3(2) Deep sleep current testing results. (Unit: uA)				
temp	Voltage	#G1	#G2	#G3
25C	3.0V	3.76	3.72	4.33
25C	3.1V	4.08	4.10	4.56
25C	3.2V	4.46	4.45	5.01
25C	3.3V	3.65	5.18	5.55
25C	3.4V	3.99	4.15	4.46
25C	3.5V	4.36	4.68	4.90
25C	3.6V	4.70	5.41	5.37

-40C	3.0V	0.17	0.25	0.15
-40C	3.1V	0.23	0.35	0.22
-40C	3.2V	0.08	0.41	0.33
-40C	3.3V	0.09	0.13	0.59
-40C	3.4V	0.06	0.34	0.07
-40C	3.5V	0.19	0.33	0.17
-40C	3.6V	0.30	0.46	0.33
85C	3.0V	60.50	55.61	61.47
85C	3.1V	63.24	57.98	63.92
85C	3.2V	66.25	61.00	66.86
85C	3.3V	60.46	64.15	70.30
85C	3.4V	64.26	59.20	63.97
85C	3.5V	69.30	63.90	68.50
85C	3.6V	76.09	70.41	74.61

Table 2.3(3) Powerdown current testing results.
(Unit: uA)

temp	Voltage	#G1	#G2	#G3
25C	3.0V	0.153	0.007	0.158
25C	3.1V	0.213	0.184	0.196
25C	3.2V	0.257	0.284	0.240
25C	3.3V	0.332	0.364	0.427
25C	3.4V	0.492	0.437	0.526
25C	3.5V	0.662	0.779	0.827
25C	3.6V	1.011	1.205	1.179
-40C	3.0V	0.044	0.083	0.080
-40C	3.1V	0.022	0.015	0.015
-40C	3.2V	0.032	0.002	0.150
-40C	3.3V	0.063	0.010	0.024
-40C	3.4V	0.022	0.049	0.019
-40C	3.5V	0.061	0.049	0.002
-40C	3.6V	0.029	0.024	0.005
85C	3.0V	2.675	2.549	2.702
85C	3.1V	3.204	3.201	3.313
85C	3.2V	4.207	4.108	4.198
85C	3.3V	5.434	5.323	5.537
85C	3.4V	7.460	7.462	7.319
85C	3.5V	10.693	10.661	10.365
85C	3.6V	15.603	15.529	15.005

3.0 Conclusion

U-Power500D passes the following voltage and temperature.

Parameters	Min	Typ	Max	Units
Ambient Operating Temperature	-40	25	+85	°C
Supply Voltage for VDD_3V ^(*)	3.0	3.3	3.6	V

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