

9. INTERMODULATION TEST

9.1 Operating environment

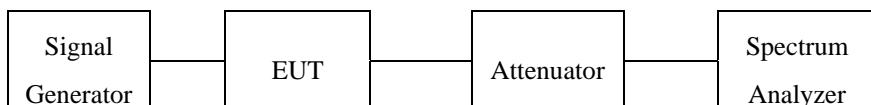
Temperature : 25 °C

Relative humidity : 50 %R.H.

9.2 Test set-up

The RF signal from the signal generator(s) was injected to the EUT by cable. The amplified RF signal at the output of the EUT was connected to the spectrum analyzer. The test was performed at three frequencies (low, middle, and high channels) at each band using all applicable modulation.

Two input signals are equal in level and were sent to the input of the EUT.



9.3 Test equipment used

Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
□ - FSV30	R/S	Spectrum Analyzer	101372	Aug. 29, 2011 (1Y)
■ - E4432B	HP	Signal Generator	US38440950	Jun. 10, 2011 (1Y)
■ - 8564E	HP	Spectrum Analyzer	3650A00756	Jun. 10, 2011 (1Y)
■ - SMJ100A	R/S	Signal Generator	101038	Feb. 01, 2011 (1Y)
■ - 83650L	HP	Swept CW Generator	3844A00415	Jun. 10, 2011 (1Y)
□ - FSP	R/S	Spectrum Analyzer	100017	Mar. 12, 2012 (1Y)
■ - 67-30-43	Aeroflex Weinschel	Power Attenuator	CA5760	Nov. 30, 2011 (1Y)

All test equipment used is calibrated on a regular basis.

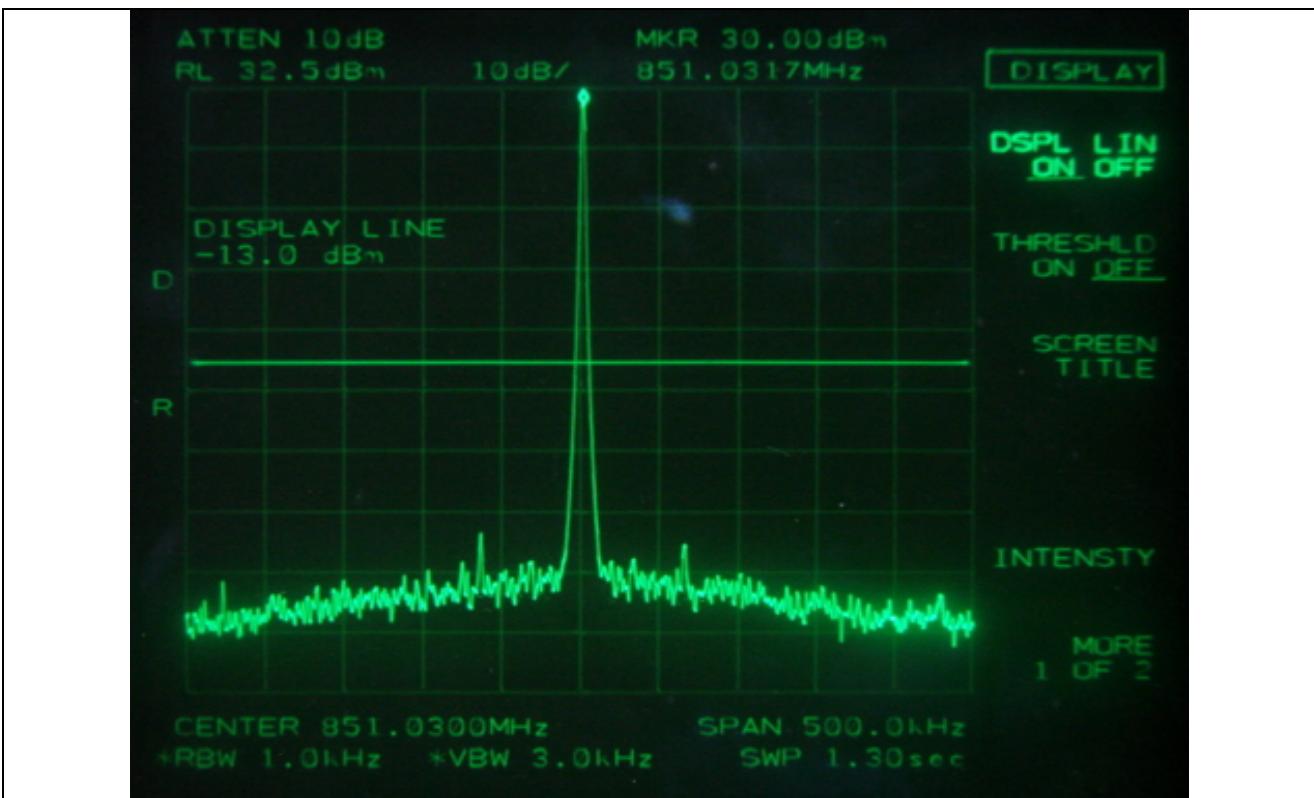
9.4 Test Result for 800PS

9.4.1 Test Result for peak power

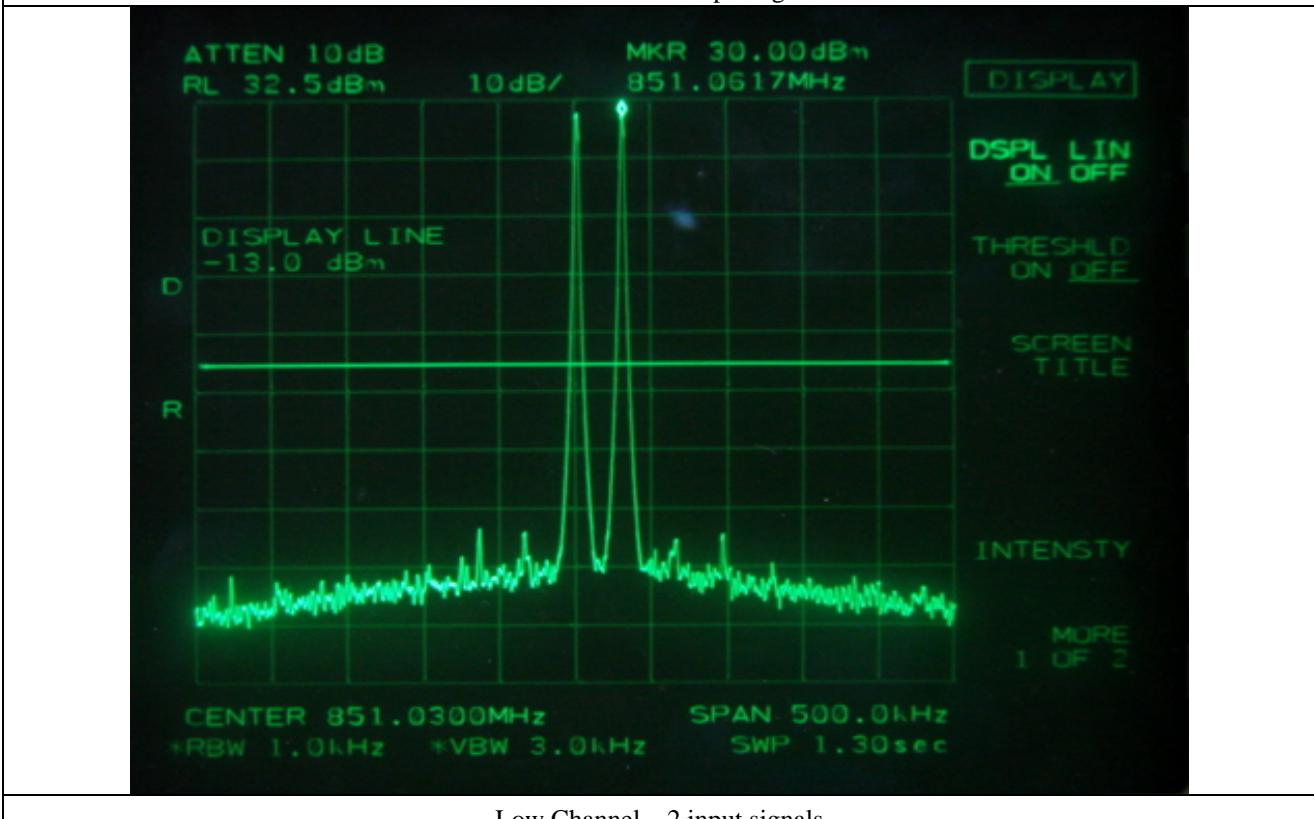
- . Test Date : May 23, 2012
- . Test Result : Pass
- . Modulation : No-Modulation

Frequency (MHz)	Number of Input Channel	Input Power (dBm)	Output Power (dBm)
851.030	1	-14.90	30.00
851.030 & 851.06	2	-14.80	30.00
851.030 & 851.06 & 851.09	3	-14.90	30.00
868.970	1	-14.80	30.00
868.970 & 868.940	2	-14.70	30.00
868.970 & 868.940 & 868.910	3	-14.90	30.17

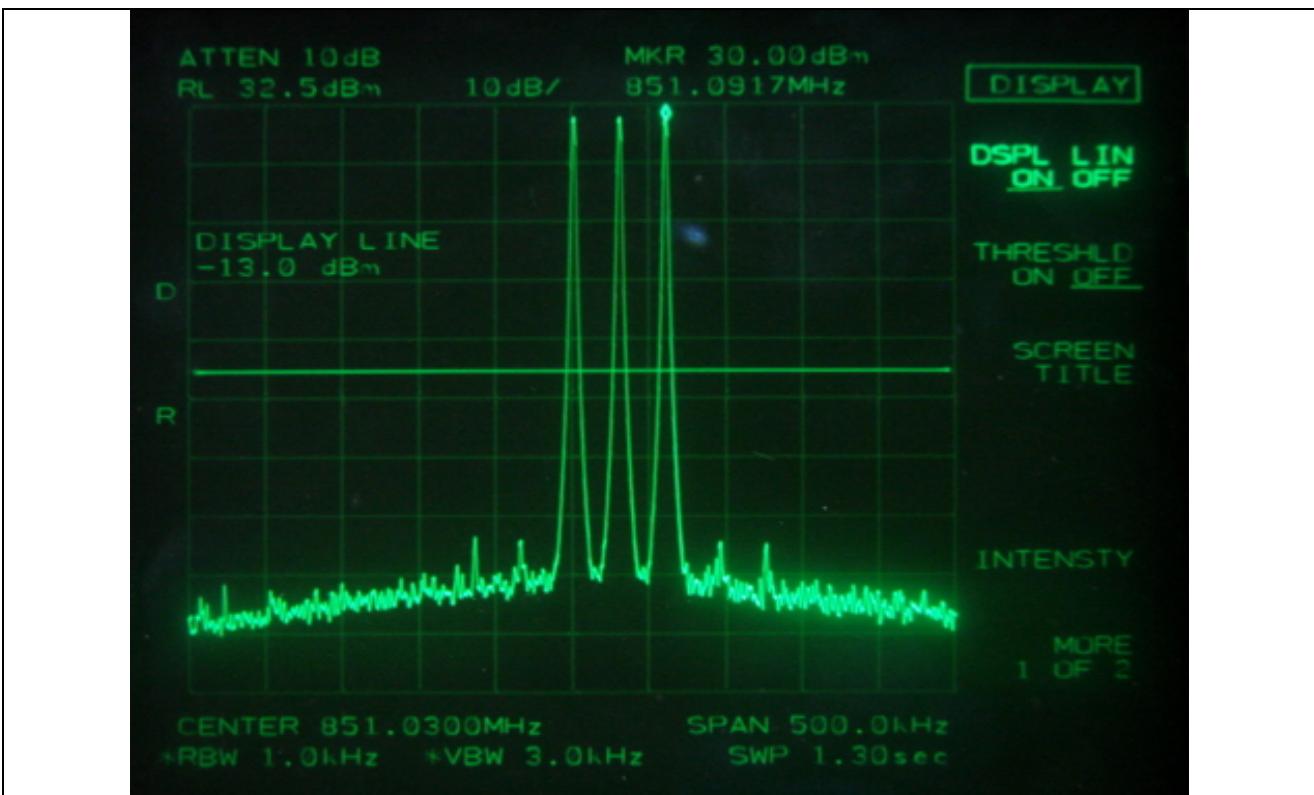
Tested by: Ki-Hong, Nam / Senior Engineer



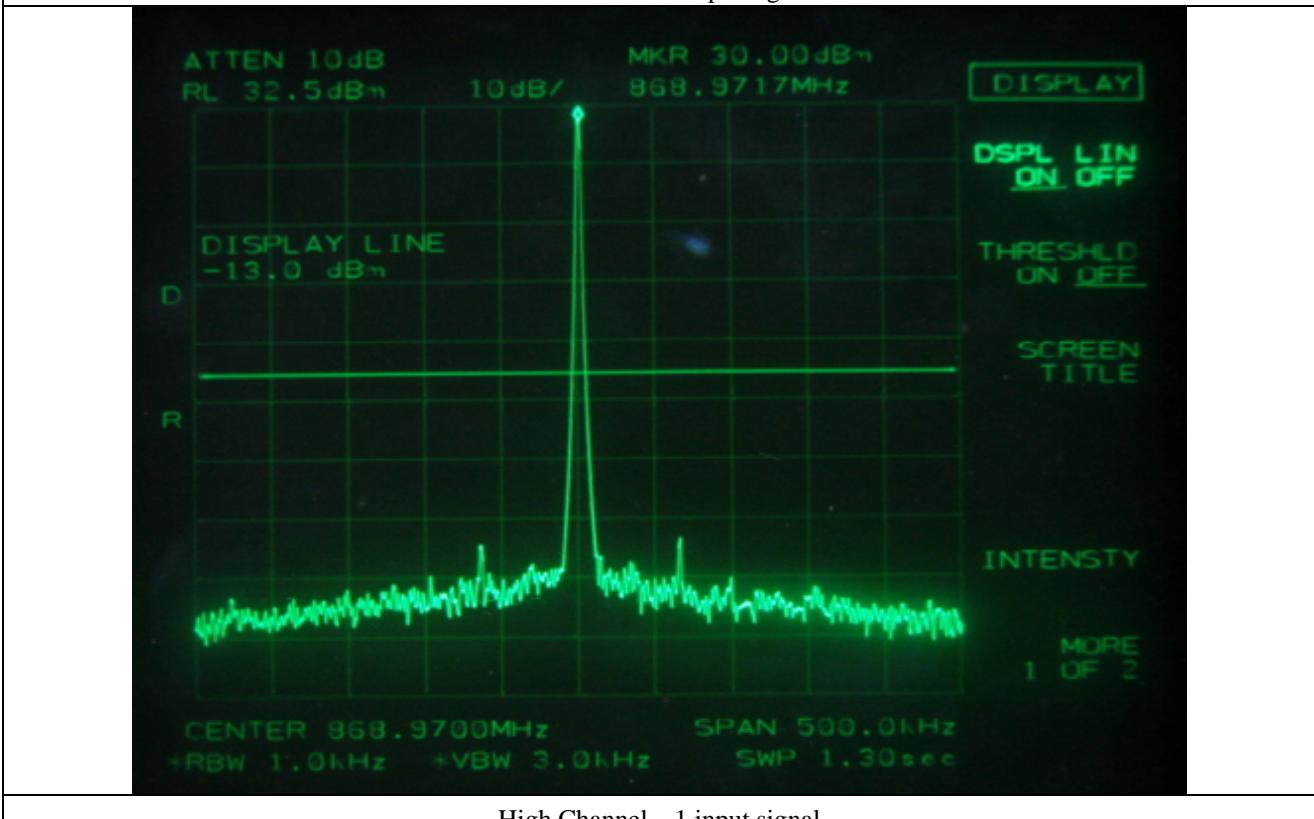
Low Channel – 1 input signal



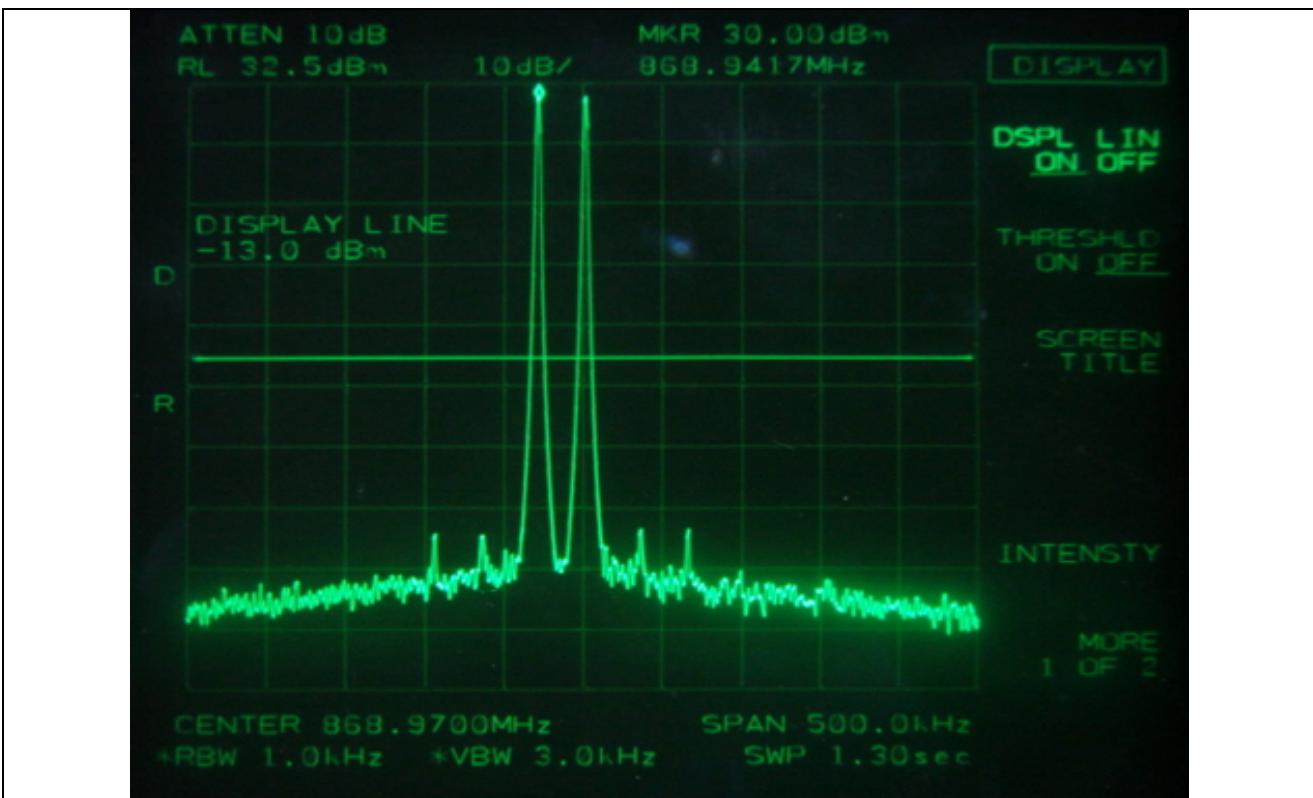
Low Channel – 2 input signals



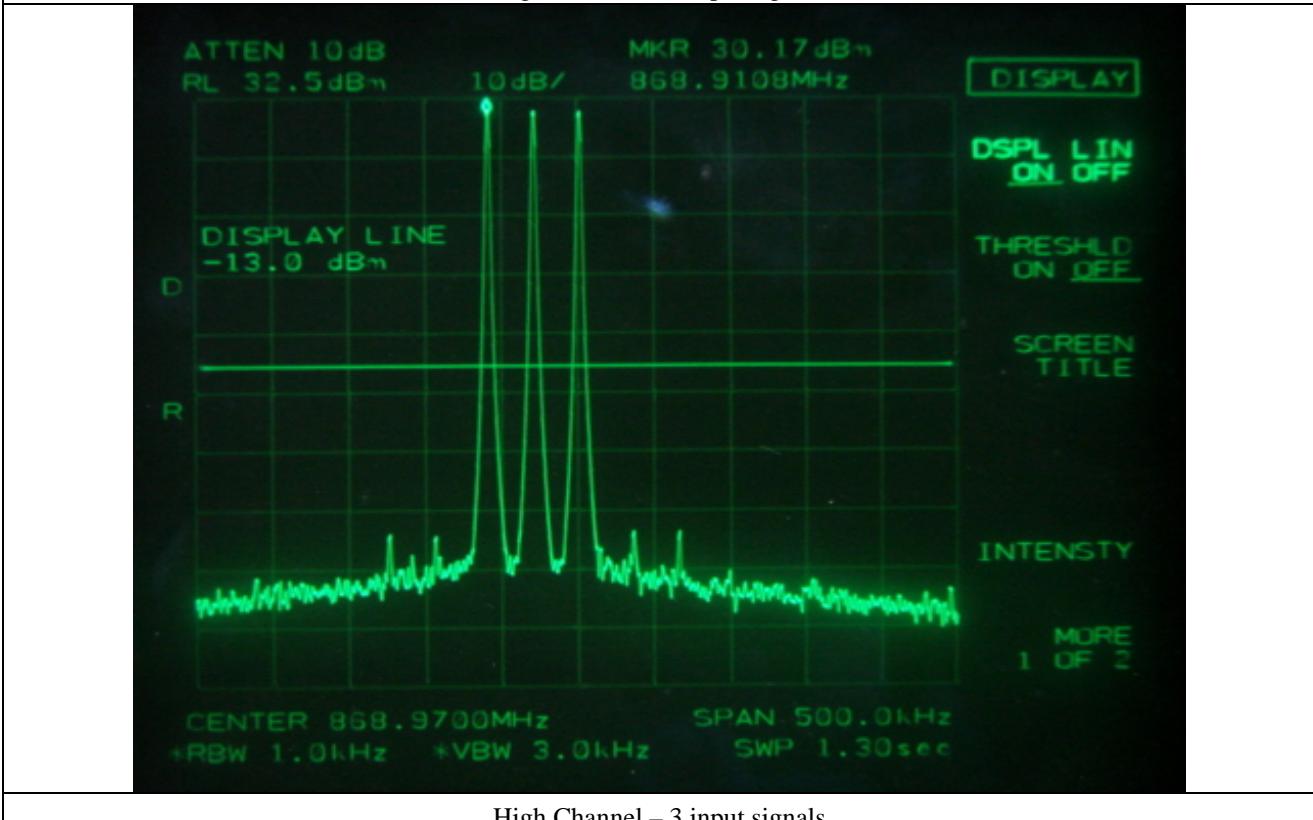
Low Channel – 3 input signals



High Channel – 1 input signal



High Channel – 2 input signals



High Channel – 3 input signals

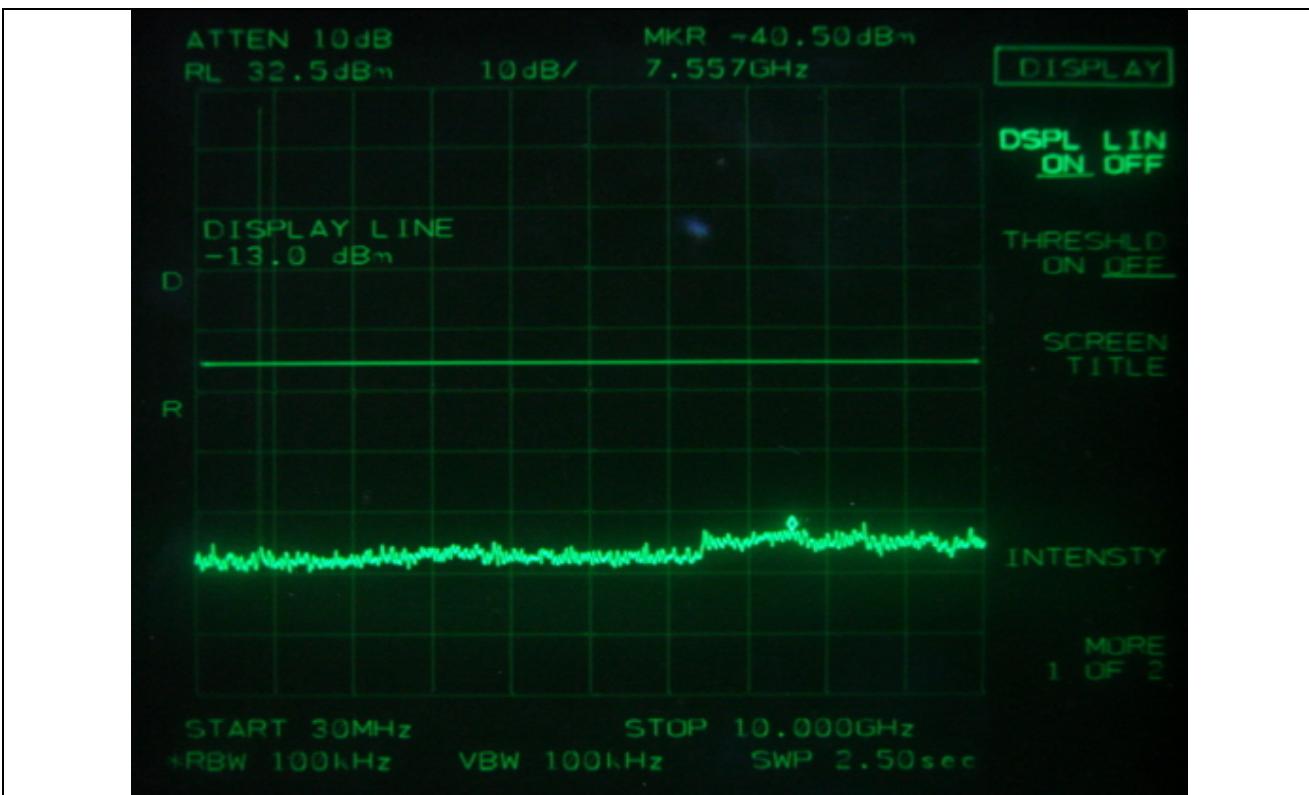
9.4.2 Test Result for Spurious emission

- . Test Date : May 23, 2012
- . Test Result : Pass
- . Modulation : No-Modulation

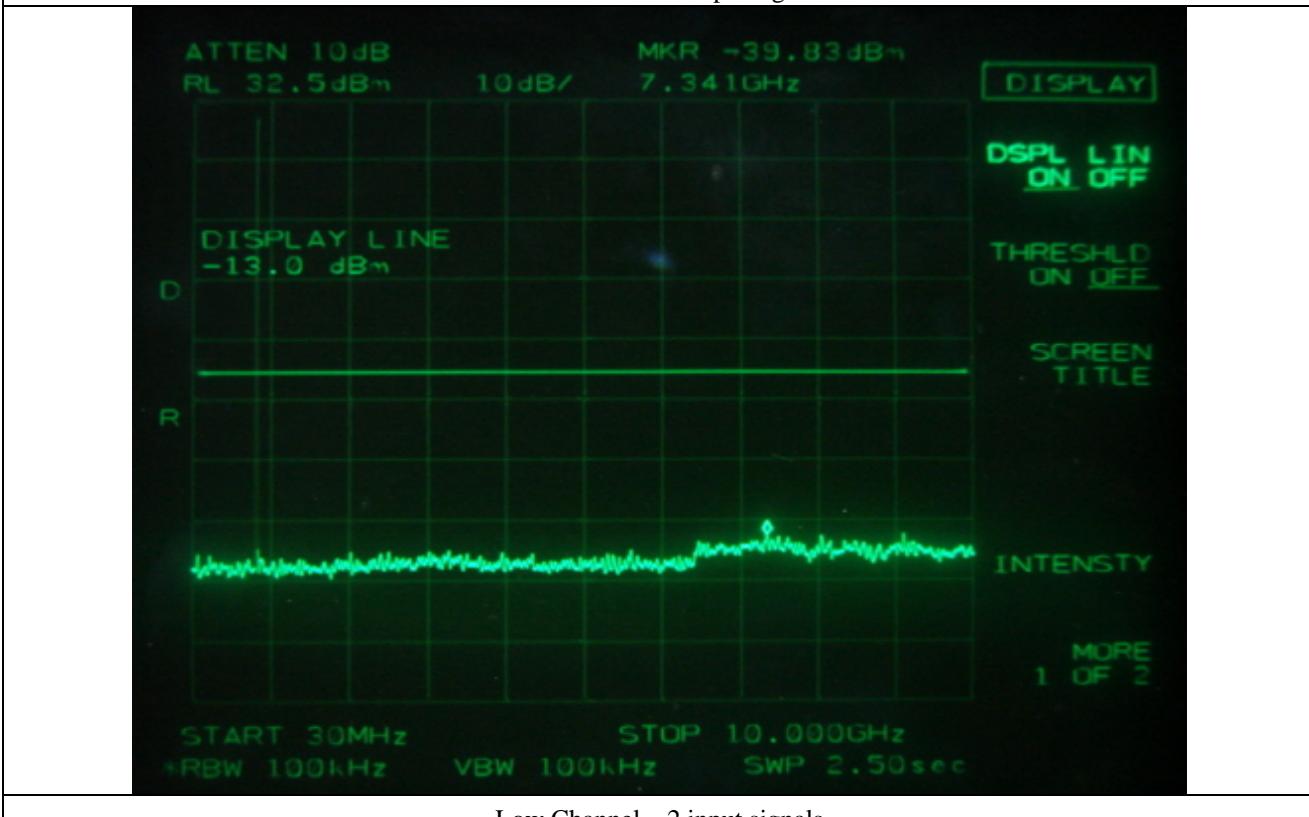
Frequency (MHz)	Number of Input Channel	Measured Value	Result
851.030	1	< -13 dBm	Pass
851.030 & 851.06	2		
851.030 & 851.06 & 851.09	3		
868.970	1	< -13 dBm	Pass
868.970 & 868.940	2		
868.970 & 868.940 & 868.910	3		

Remark: Intermodulation products must be attenuated below the rated power of the EUT at least $43 + 10\log(P_w)$, equivalent to -13 dBm. Please refer to test data hereinafter.

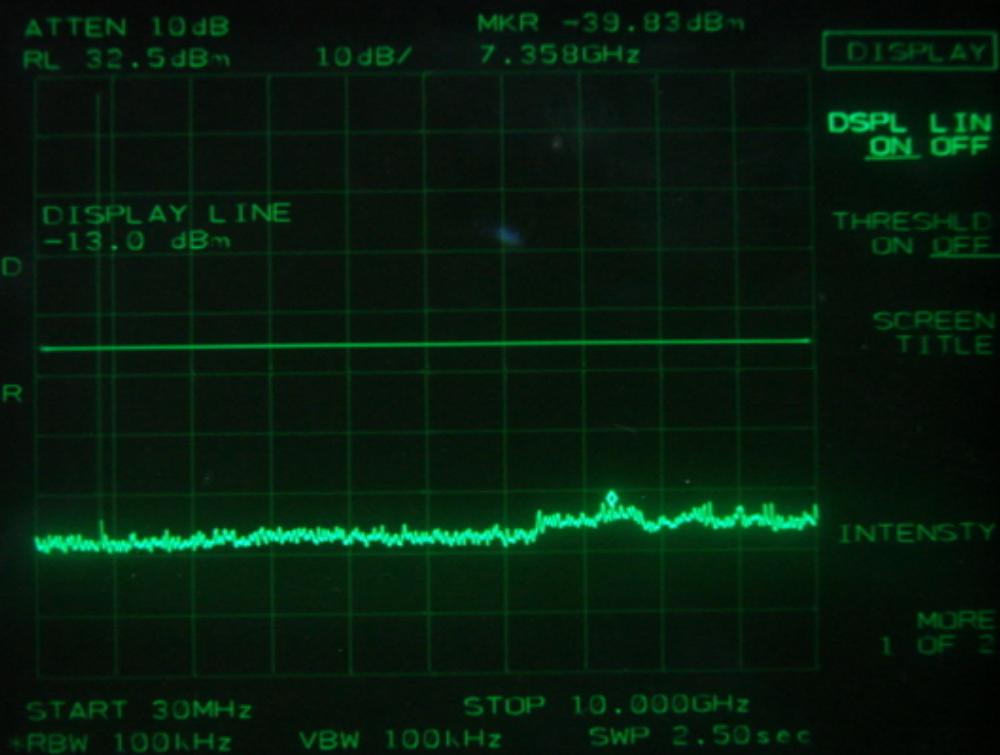
Tested by: Ki-Hong, Nam / Senior Engineer



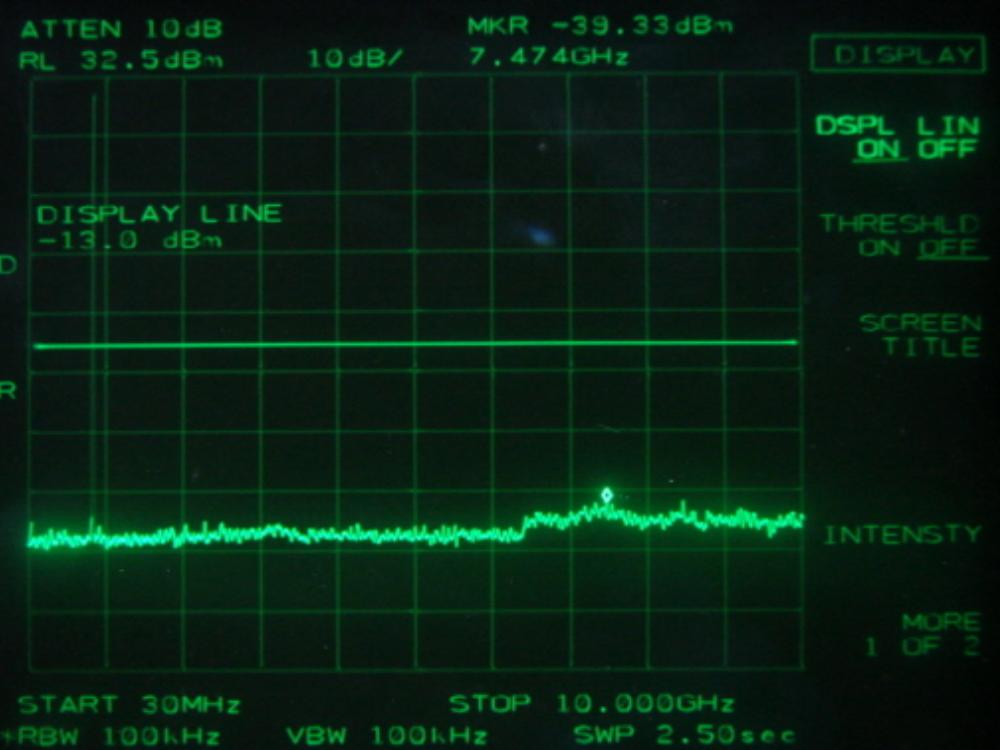
Low Channel – 1 input signal



Low Channel – 2 input signals



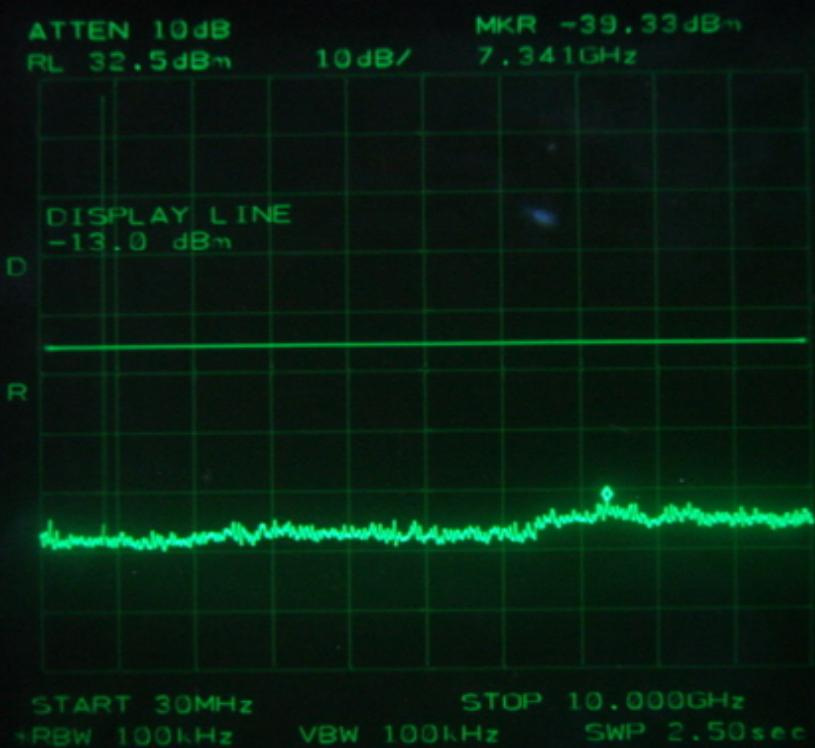
Low Channel – 3 input signals



High Channel – 1 input signal



High Channel – 2 input signals



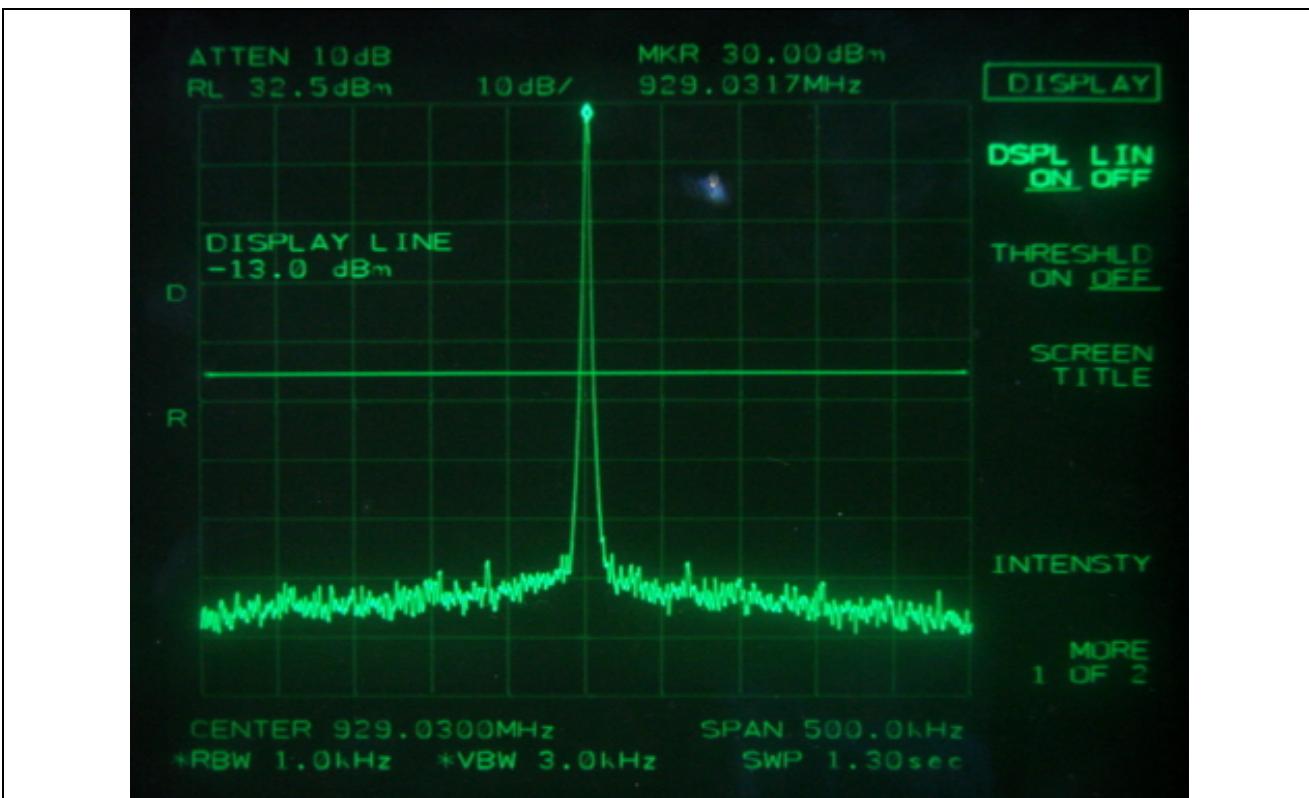
High Channel – 3 input signals

9.5 Test Result for 900I+PA (929 MHz ~ 930 MHz)**9.5.1 Test Result for peak power**

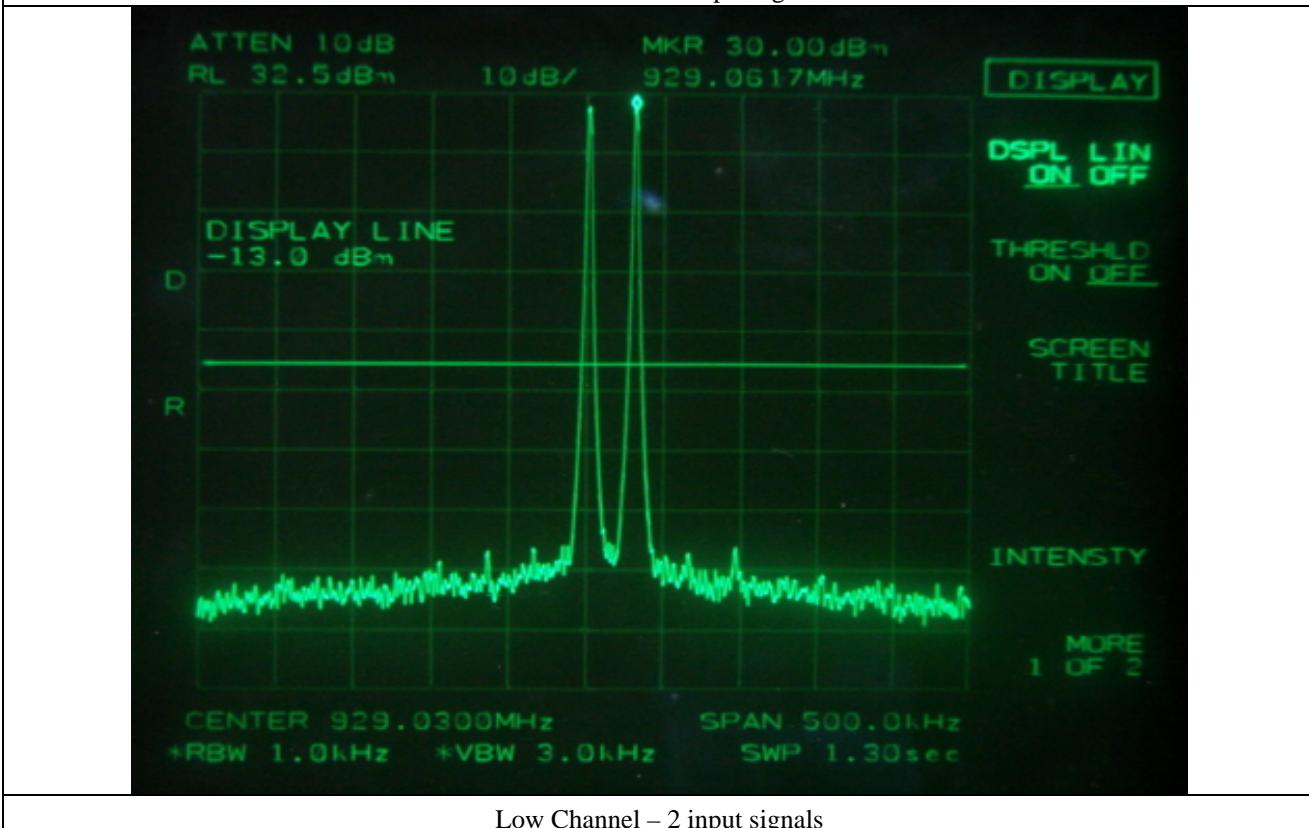
- . Test Date : May 25, 2012
- . Test Result : Pass
- . Modulation : No-Modulation

Frequency (MHz)	Number of Input Channel	Input Power (dBm)	Output Power (dBm)
929.03	1	-14.70	30.00
929.03 & 929.06	2	-14.80	30.00
929.03 & 929.06 & 929.09	3	-14.80	30.17
929.97	1	-14.90	30.00
929.97 & 929.94	2	-14.80	30.00
929.97 & 929.94 & 929.91	3	-14.90	30.00

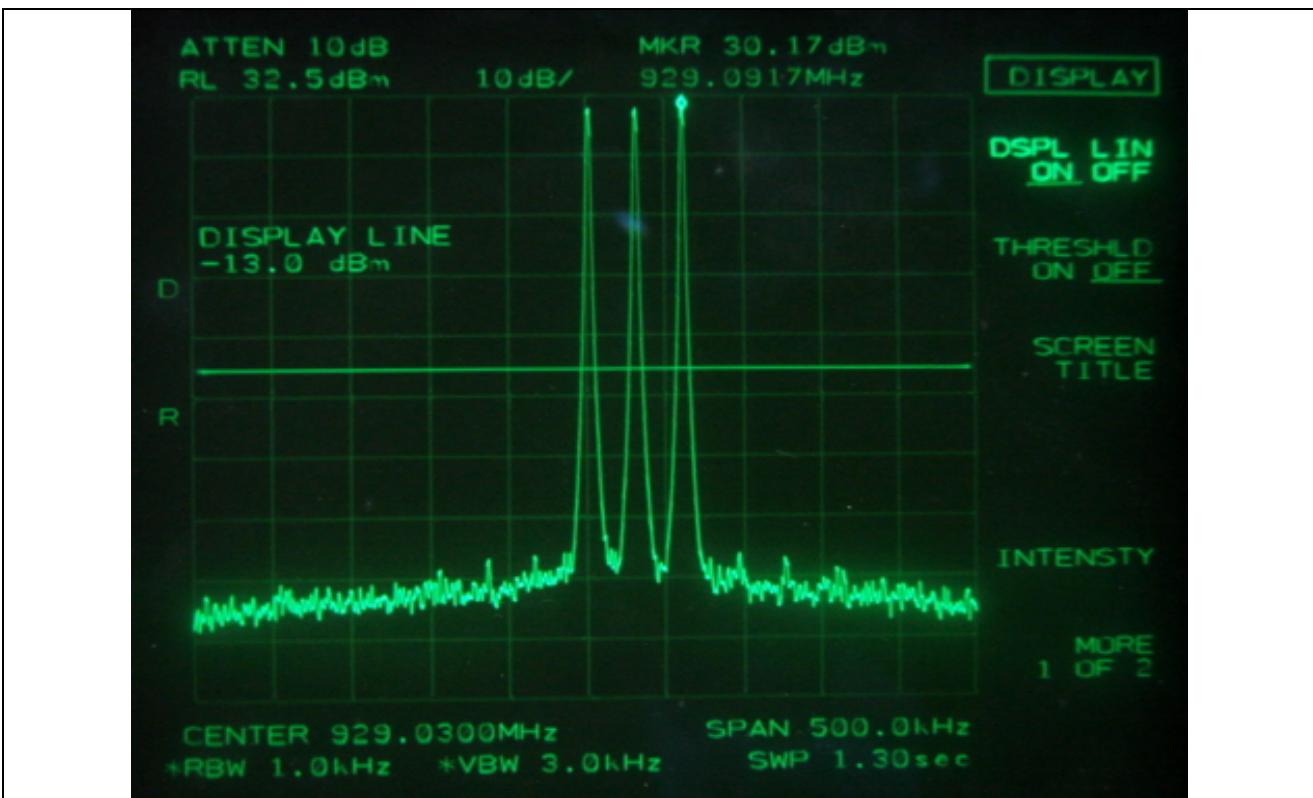
Tested by: Ki-Hong, Nam / Senior Engineer



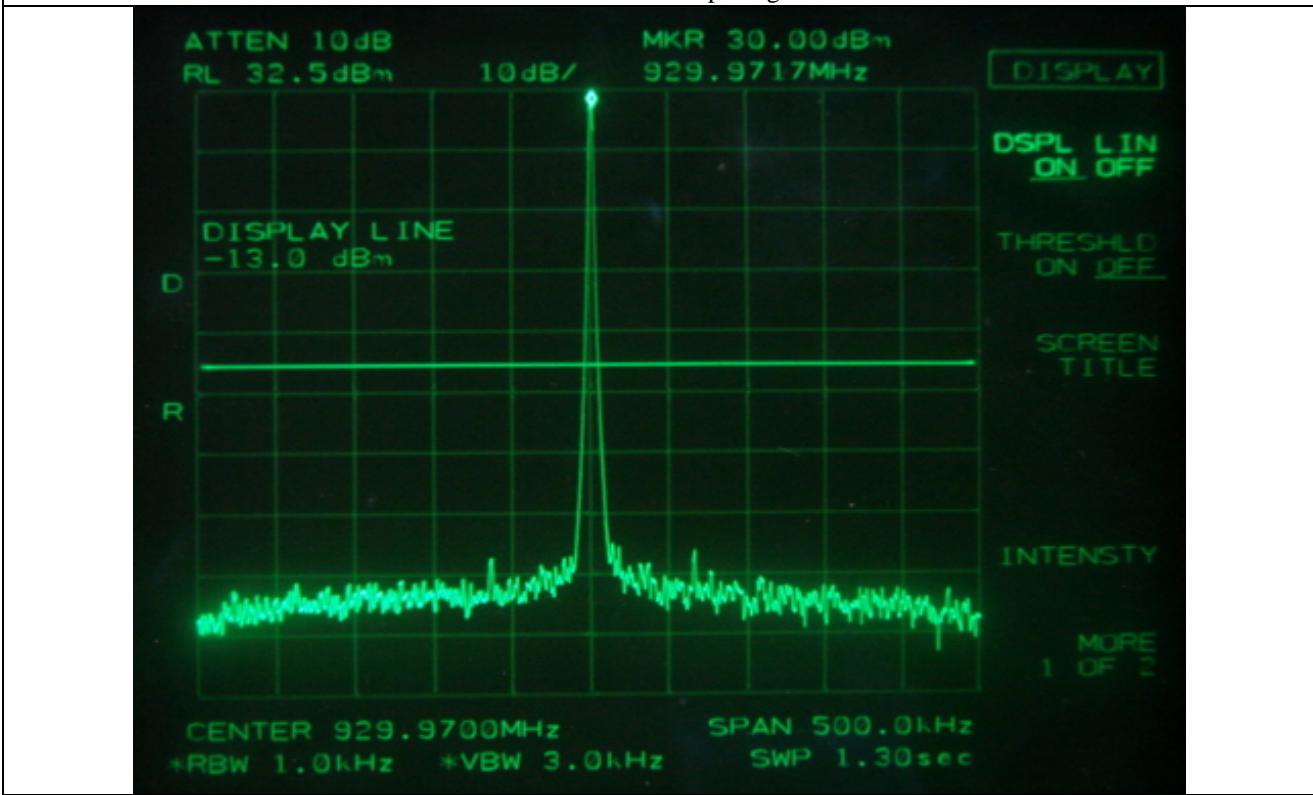
Low Channel – 1 input signal



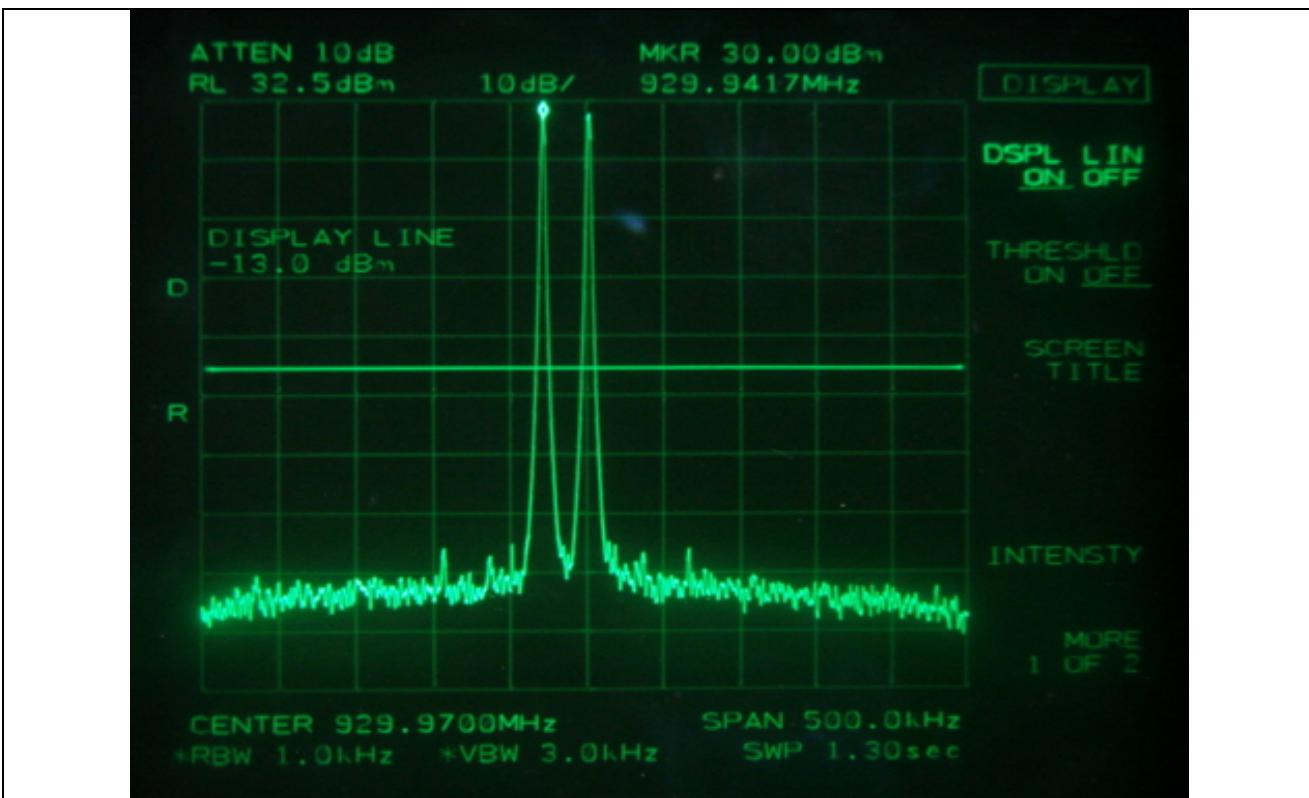
Low Channel – 2 input signals



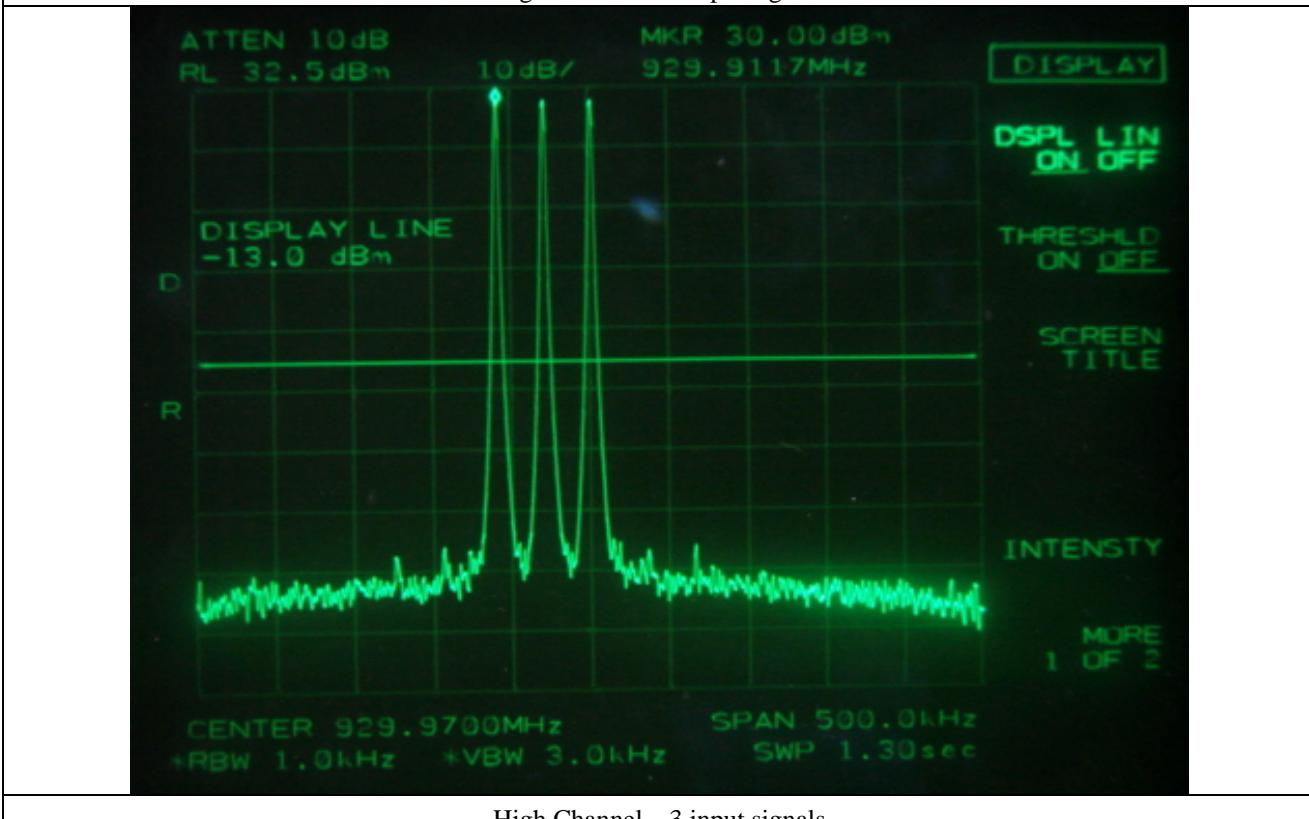
Low Channel – 3 input signals



High Channel – 1 input signal



High Channel – 2 input signals



High Channel – 3 input signals

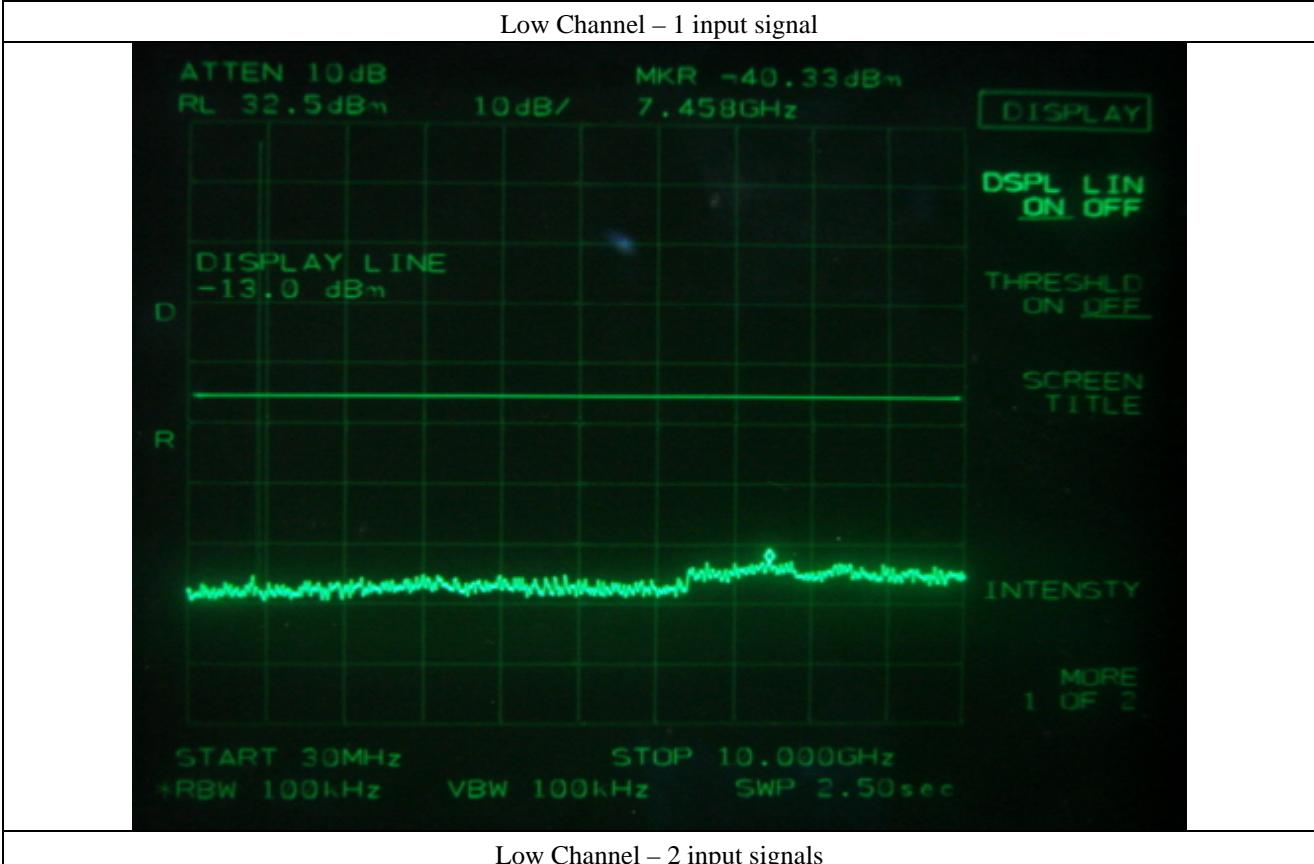
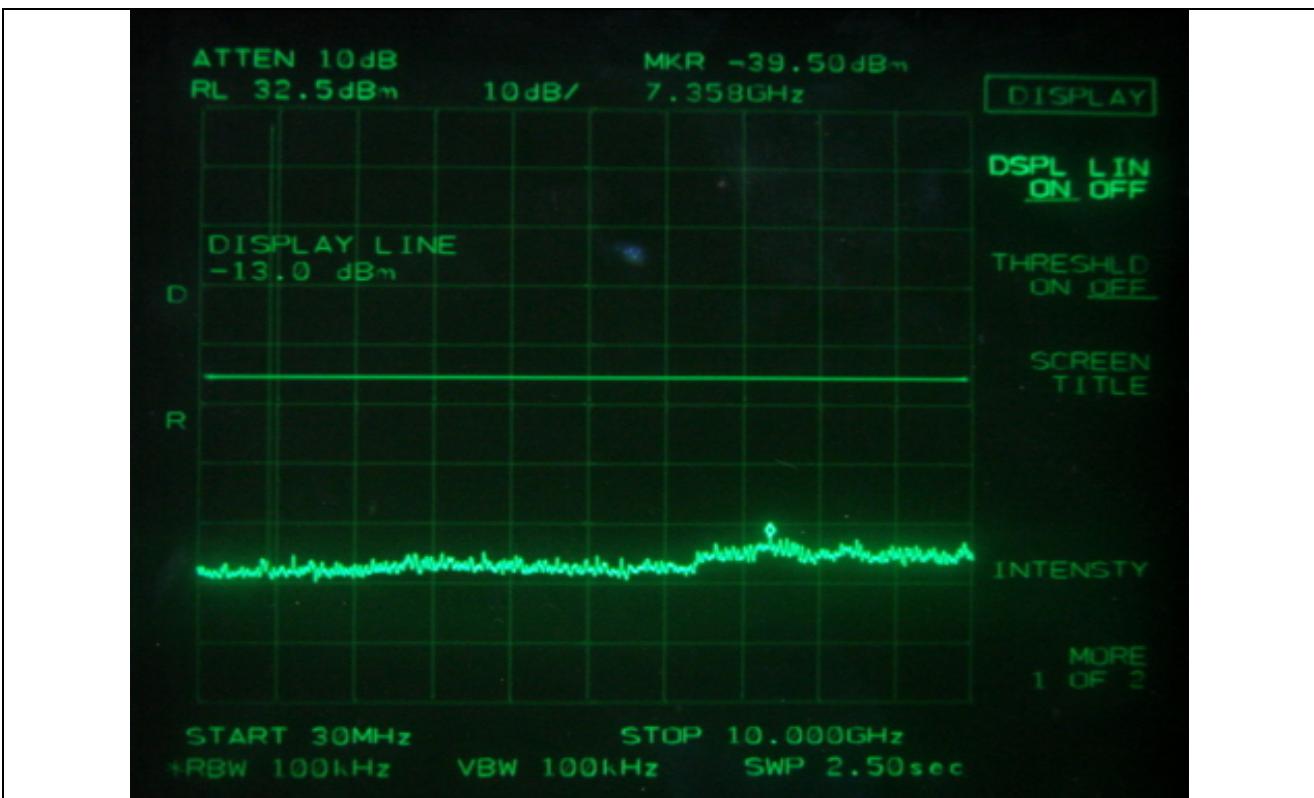
9.5.2 Test Result for Spurious emission

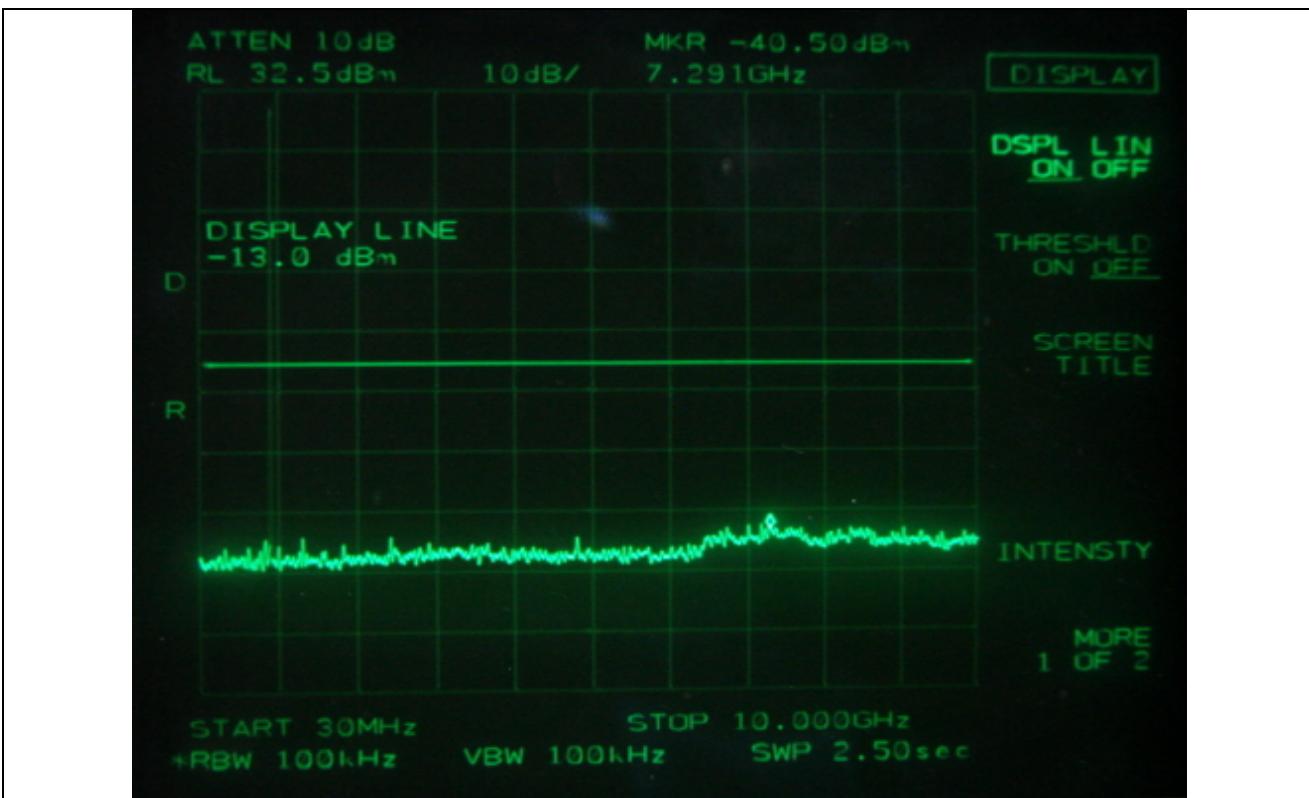
- . Test Date : May 25, 2012
- . Test Result : Pass
- . Modulation : No-Modulation

Frequency (MHz)	Number of Input Channel	Measured Value	Result
929.03	1	< -13 dBm	Pass
929.03 & 929.06	2		
929.03 & 929.06 & 929.09	3		
929.97	1	< -13 dBm	Pass
929.97 & 929.940	2		
929.97 & 929.94 & 929.91	3		

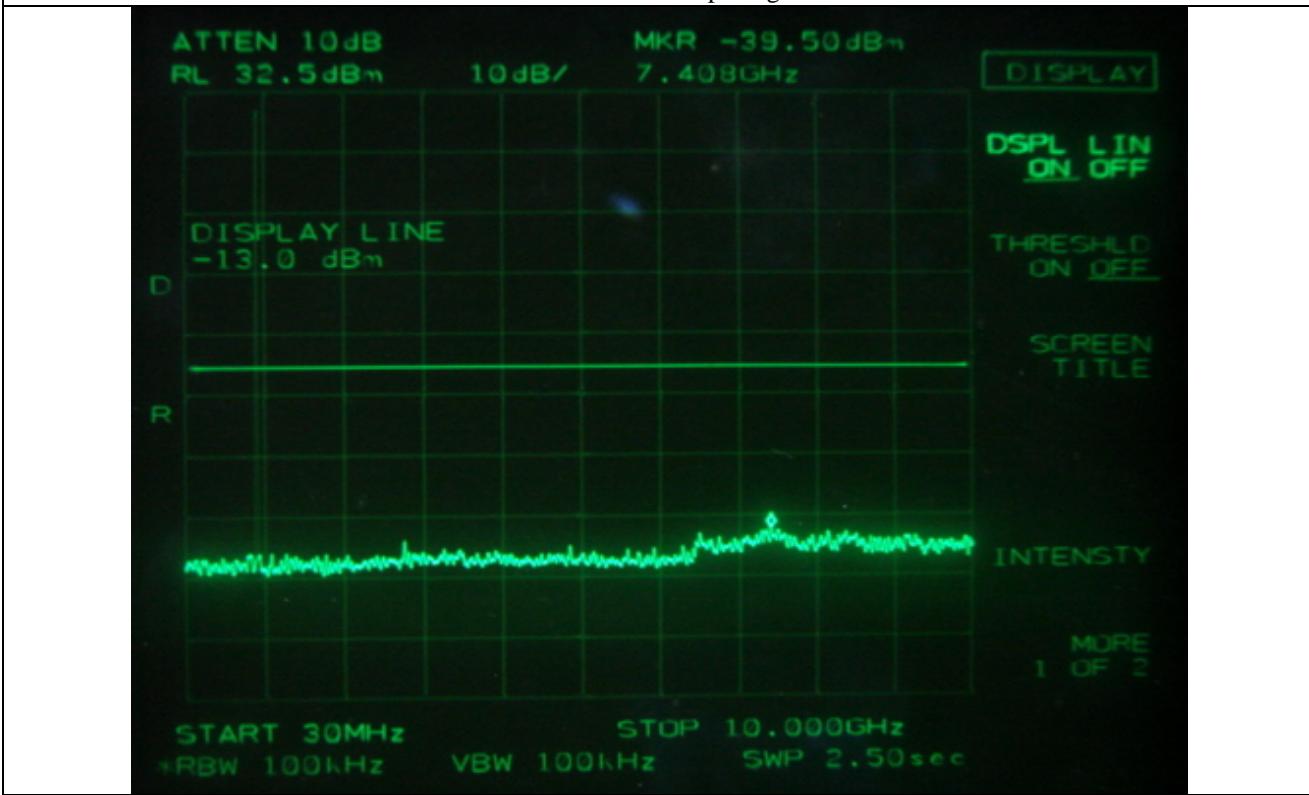
Remark: Intermodulation products must be attenuated below the rated power of the EUT at least $43 + 10\log(P_w)$, equivalent to -13 dBm. Please refer to test data hereinafter.

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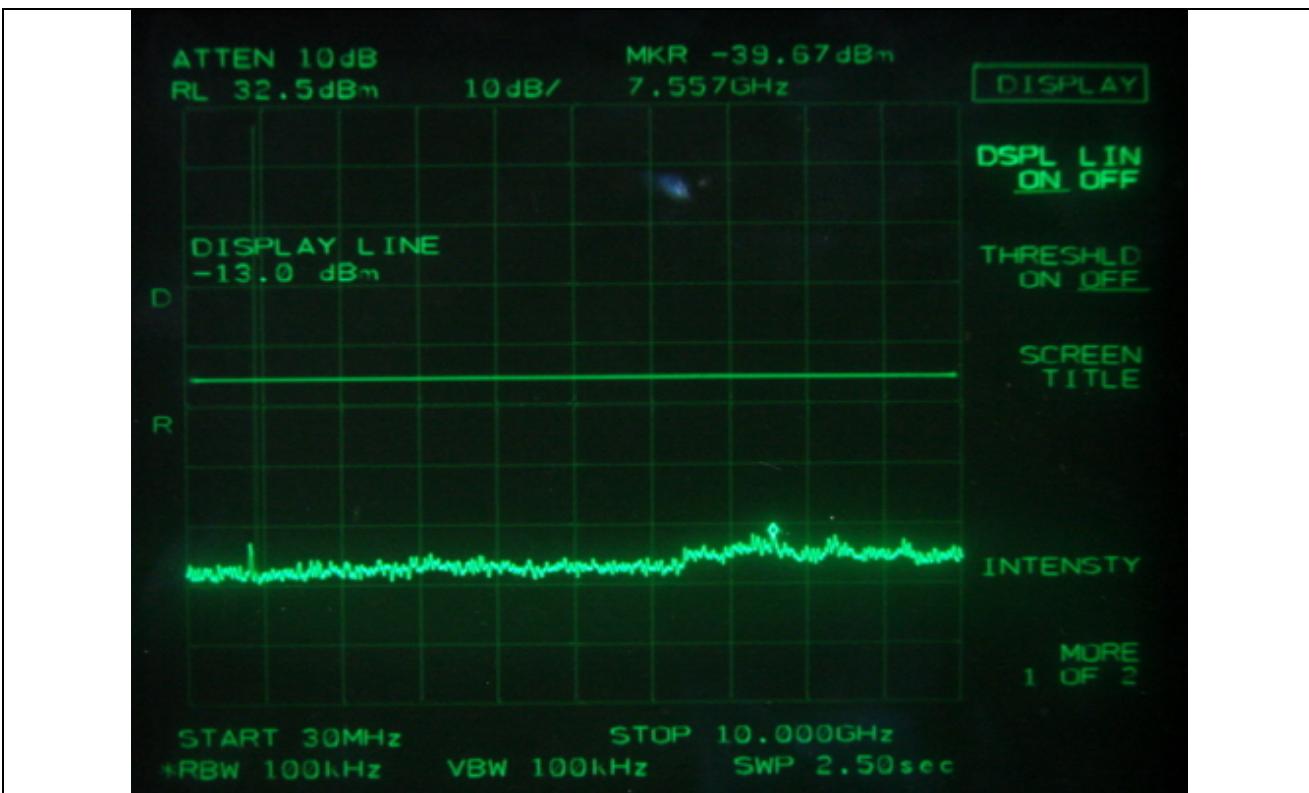




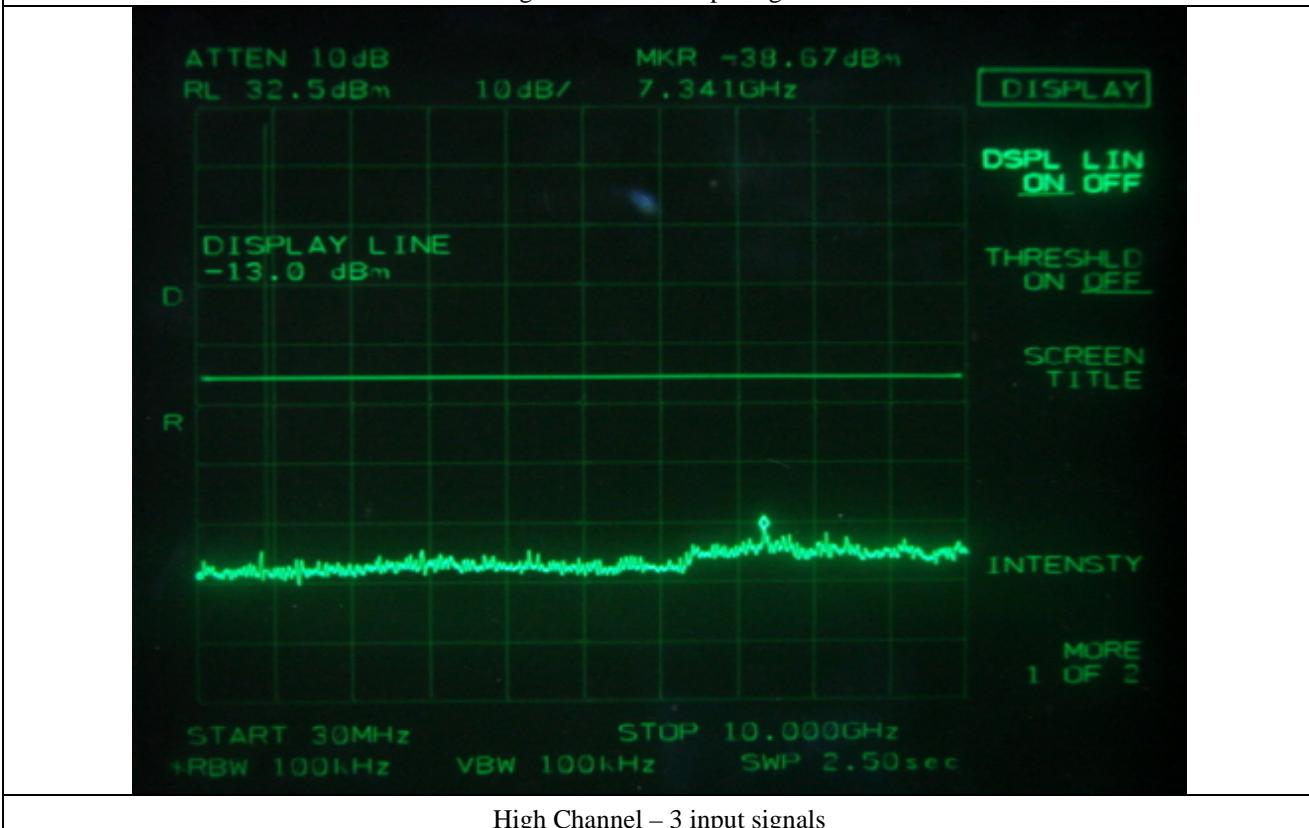
Low Channel – 3 input signals



High Channel – 1 input signal



High Channel – 2 input signals



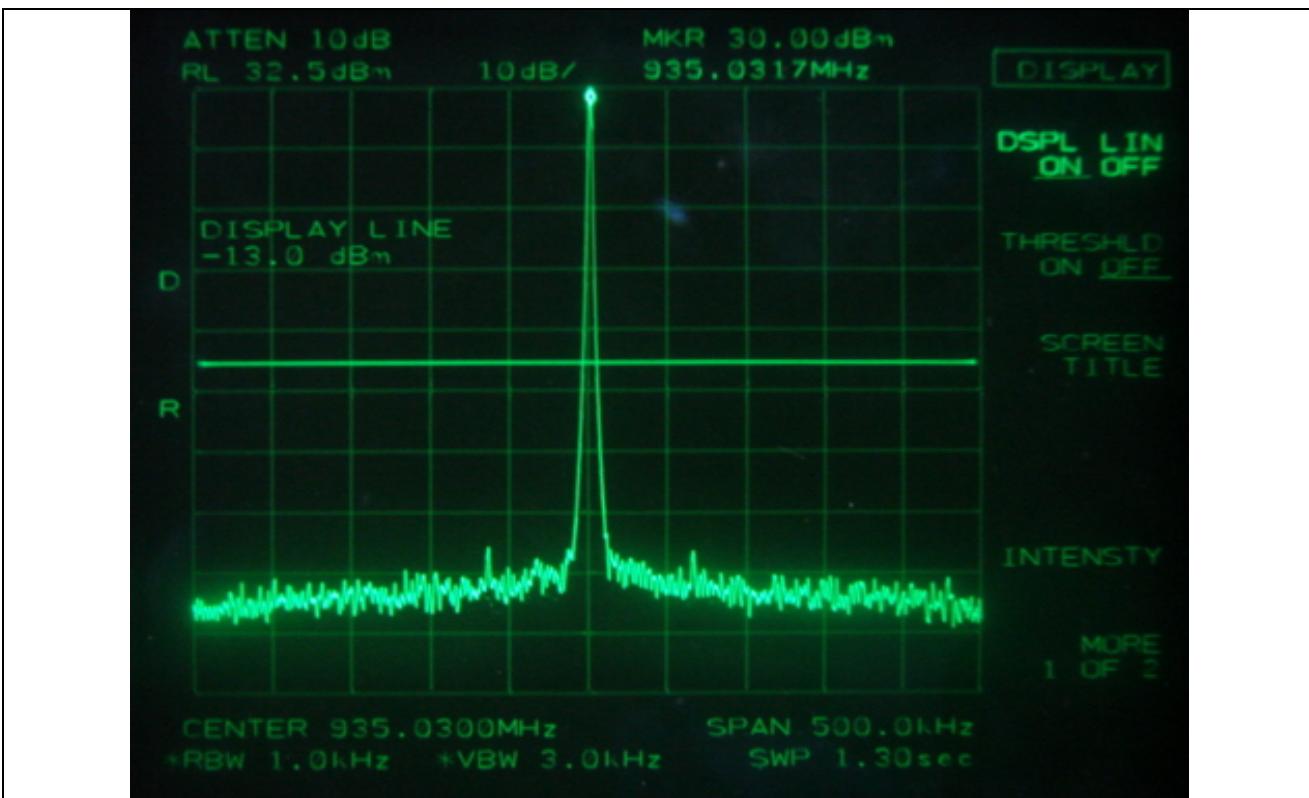
High Channel – 3 input signals

9.6 Test Result for 900I+PA (935 MHz ~ 940 MHz)**9.6.1 Test Result for peak power**

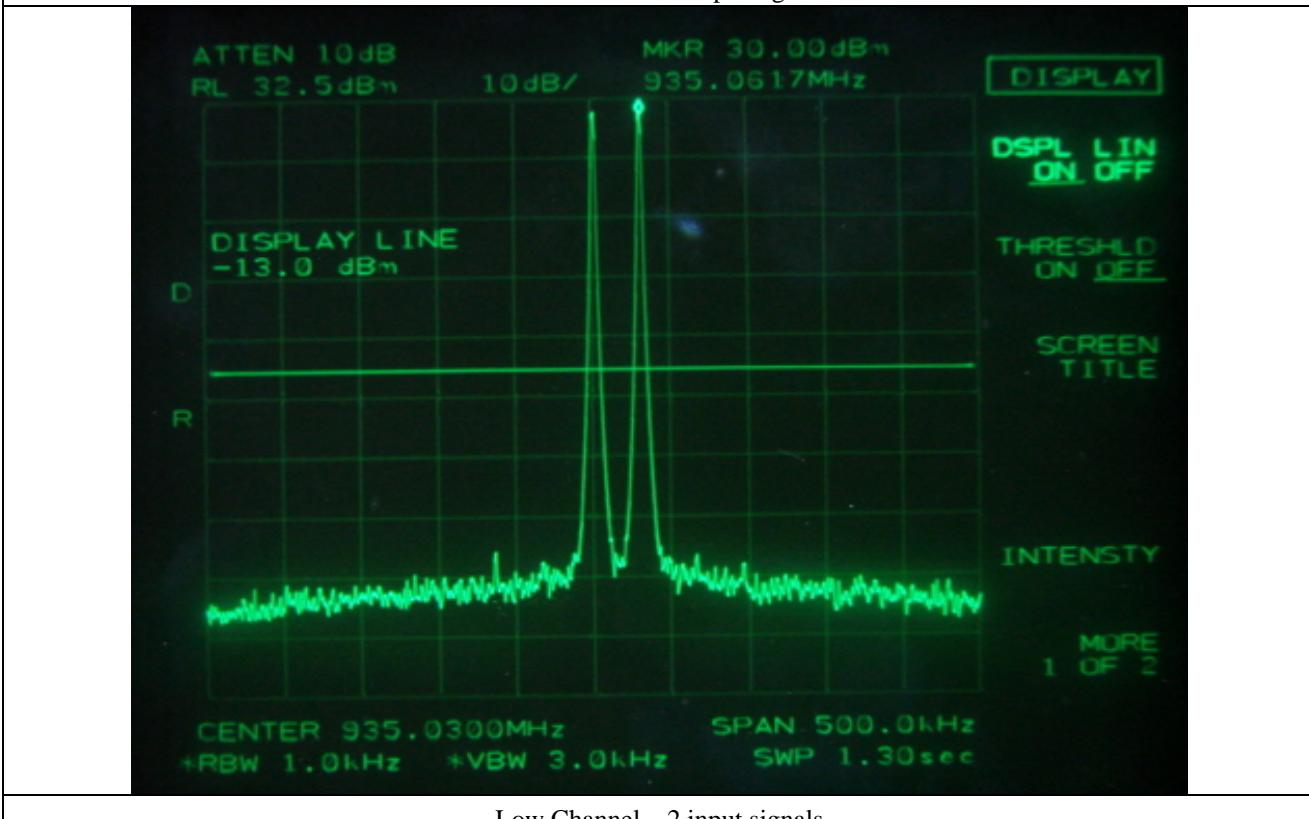
- . Test Date : May 25, 2012
- . Test Result : Pass
- . Modulation : No-Modulation

Frequency (MHz)	Number of Input Channel	Input Power (dBm)	Output Power (dBm)
935.03	1	-14.90	30.00
935.03 & 935.06	2	-14.90	30.00
935.03 & 935.06 & 935.09	3	-14.80	30.00
939.97	1	-14.70	30.00
939.97 & 939.94	2	-14.90	30.00
939.97 & 939.94 & 939.91	3	-14.80	30.00

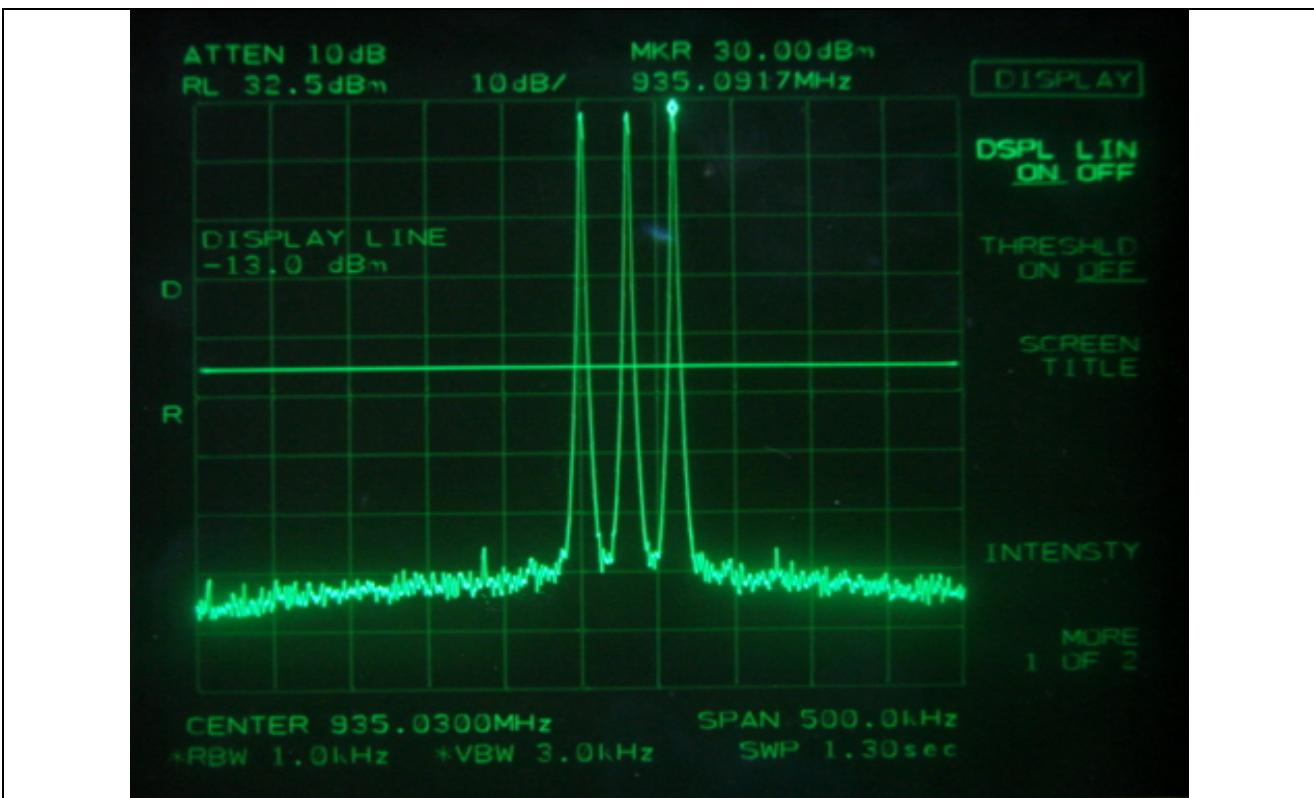
Tested by: Ki-Hong, Nam / Senior Engineer



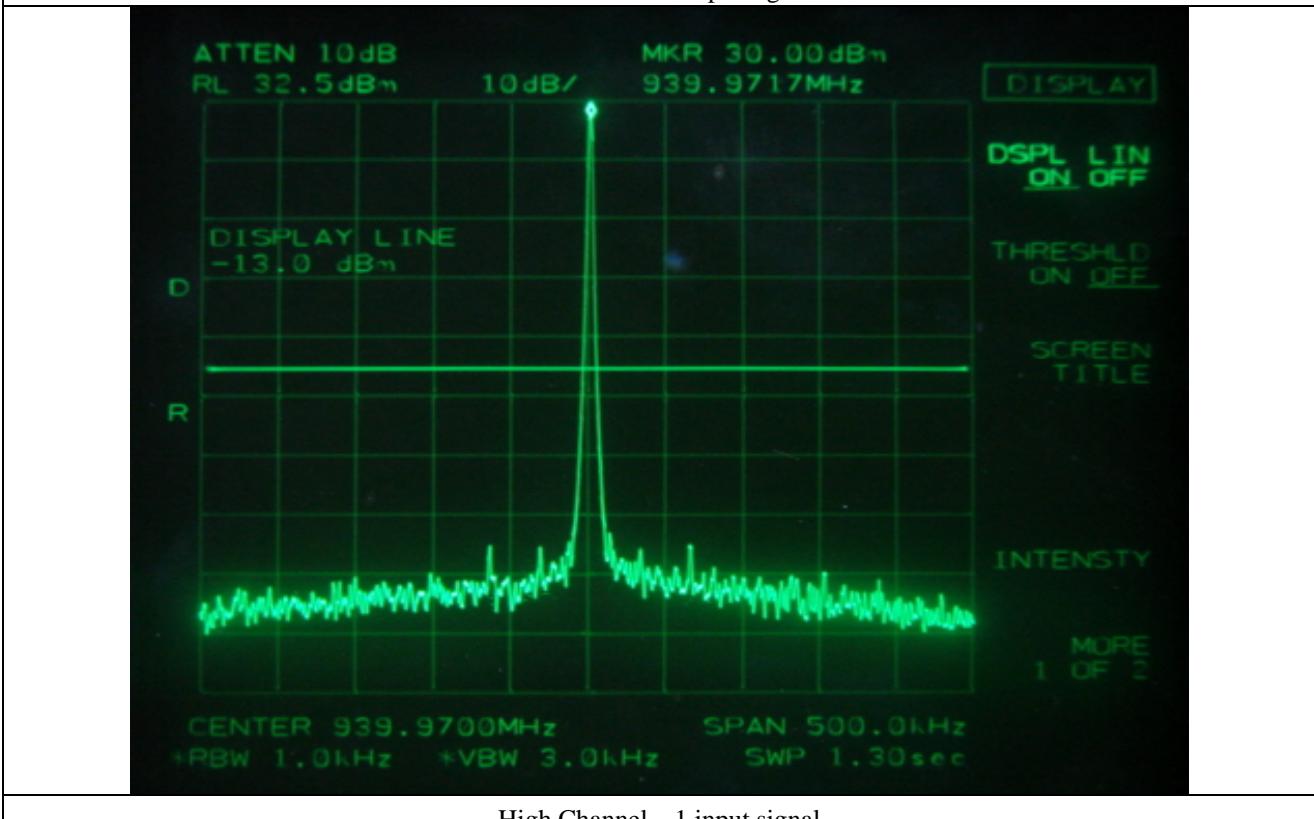
Low Channel – 1 input signal



Low Channel – 2 input signals



Low Channel – 3 input signals



High Channel – 1 input signal