

FCC MEASUREMENT AND TEST REPORT

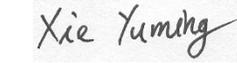
For

ZTE Corporation

ZTE Plaza, Hi-tech Park, Nanshan District, Shenzhen,
Guangdong, China 518057

FCC ID: ZXSDR R8882S8500

June 10, 2015

This Report Concerns: <input checked="" type="checkbox"/> Original Report		Equipment Type: Macro Radio Remote Unit
Test Engineer:		
Report No.:	RF2015236RZ	
Test Date:	June 1 – June 10, 2015	
Reviewed By:		
Prepared By:	ZTETS Corporation	
ZTE Plaza, Hi-tech Park, Nanshan District, Shenzhen, Guangdong, China 518057, P.R.China Tel: +86-755-26770000 Fax: +86-755-26771999		

Note: The test report is specially limited to the above company and this particular sample only. It may not be duplicated without prior written consent of ZTE Corporation. This report must not be used by the client to claim product certification, approval, or endorsement by any agency of the US Government.

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2 GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The ZTE Corporation's product, model number: ZXSDR R8882 S8500 or the "EUT" as referred to in this report is a Macro Radio Remote Unit.

Technical specification:

Size: 472 mm x 320 mm x 150 mm (HxWxD)

Input voltage: -37V~-60V

Frequency range: UL:824MHz~849MHz; DL: 869MHz~894MHz

Max RF output power: 46dBm

Gain of the antenna: 15dBi

Appearance of EUT:

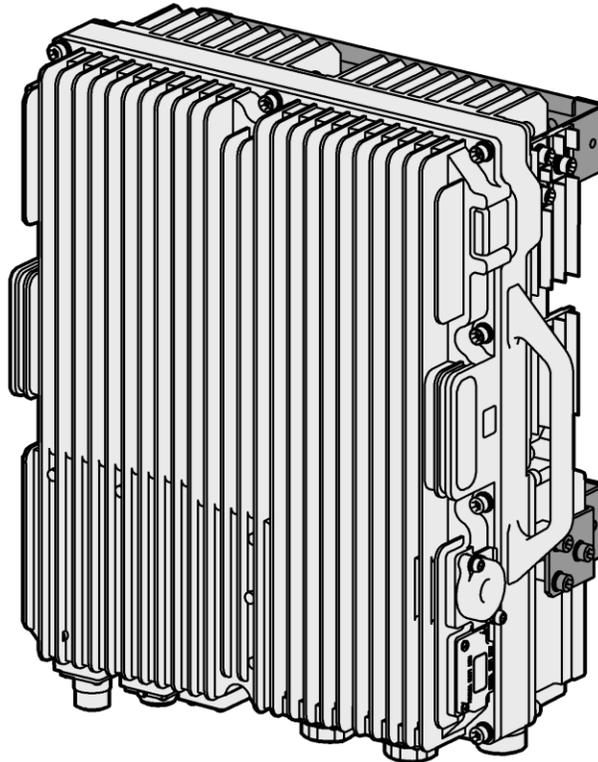


FIGURE 1 APPEARANCE OF ZXSDR R8882 S8500

Objective

This type approval report is prepared on behalf of ZTE Corporation in accordance with Part 1, Part 2, part15, Part 22 of the Federal Communication Commissions rules.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of federal Regulations Title 47 Part 2 as well as the following parts:

Part 27 MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

Applicable Standards: TIA EIA 137-A, TIA EIA 97-D, TIA/EIA 603-C, Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

All radiated and conducted measurement was performed at ZTE Corporation Reliability Testing Center. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Shenzhen ZTE Technology Service Co., Ltd to collect test data is located in the ZTE Plaza, Hi-tech Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China, Tel: +86-755-26770000, Fax: +86-755-26771999. Test site at ZTETS Corporation has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 04, 2004. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 0007895832. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

3 SYSTEM TEST CONFIGURATION

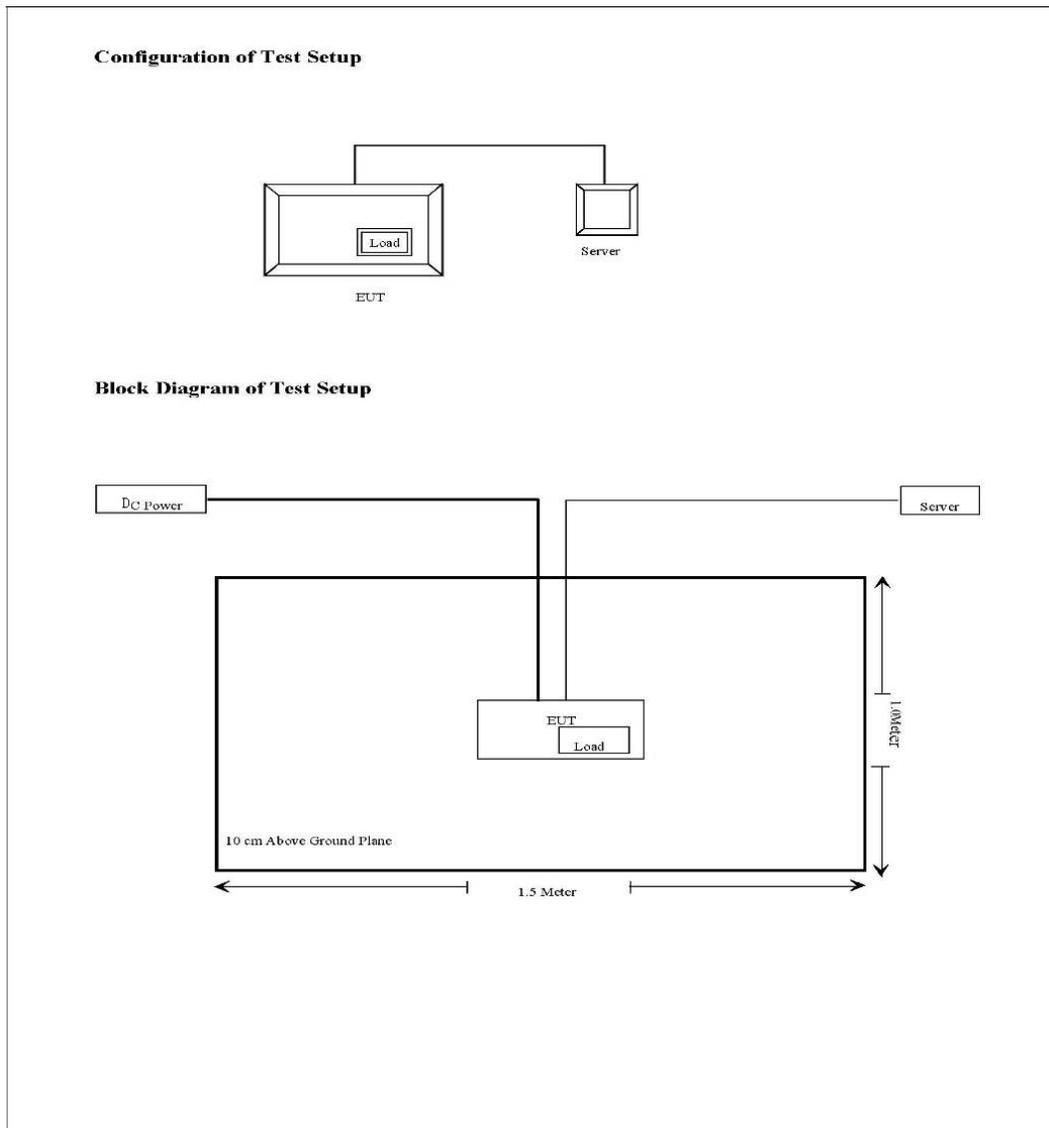
Description of Test Configuration

Justification

The EUT was configured for testing according to TIA/EIA-603C.
The final qualification test was performed with EUT operating at normal mode.

Equipment Modifications

ZTE Corporation has not done any modification on the EUT.



4 SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§ 2.1046 , §22.913	Transmitter output Power	Compliant
§ 2.1091 , §1.1037	RF Exposure	Compliant
§ 2.1047	Modulation Characteristic	Compliant
§ 2.1053, §22.917	Spurious Radiated Emissions	Compliant
§ 2.1051, §22.917	Spurious Emissions AT Antenna Terminals	Compliant
§ 2.1049	Occupied Bandwidth	Compliant
§ 2.1051, §22.917	Band Edge	Compliant
§ 2.1055,	Frequency stability	Compliant

5 TRANSMITTER OUTPUT POWER

Applicable Standard: FCC §2.1046, §22.913

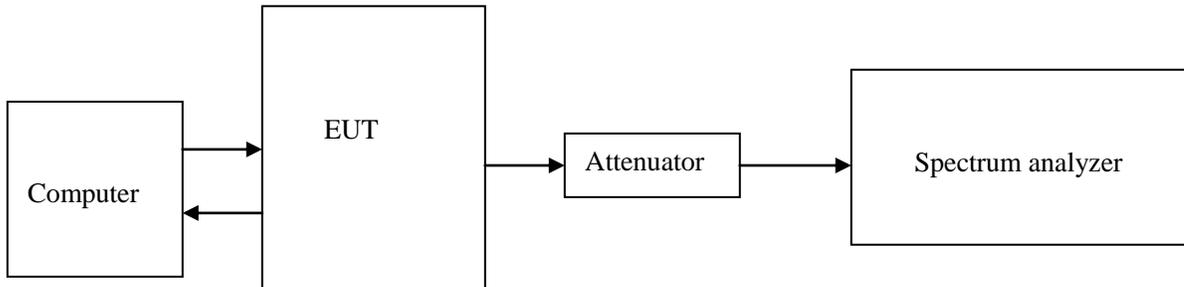
According to FCC §2.1046 & §22.913, the ERP (the effective radiated power) must not exceed 1000Watts.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	MXA Series Spectrum Analyzer	N9030A	MY49431143	2015.04.17	2016.04.17
DTS	DTS 40dB Attenuator	DTS100-40-3-1	09112005	2015.04.17	2016.04.17
Silverline	Silverline RF Cable	SLA18-NMN1T	100311-04-0001	N/A	N/A

***statement of traceability:** ZTE Corporation Reliability Testing Center attests that all calibration has been performed per the NVLAP requirements, traceable to NIST.

Test Procedure



The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation. External attenuation Loss is 40dB, Cable Loss is about 1.5dB

Environmental Conditions

Temperature:	20 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

Test Result: Pass

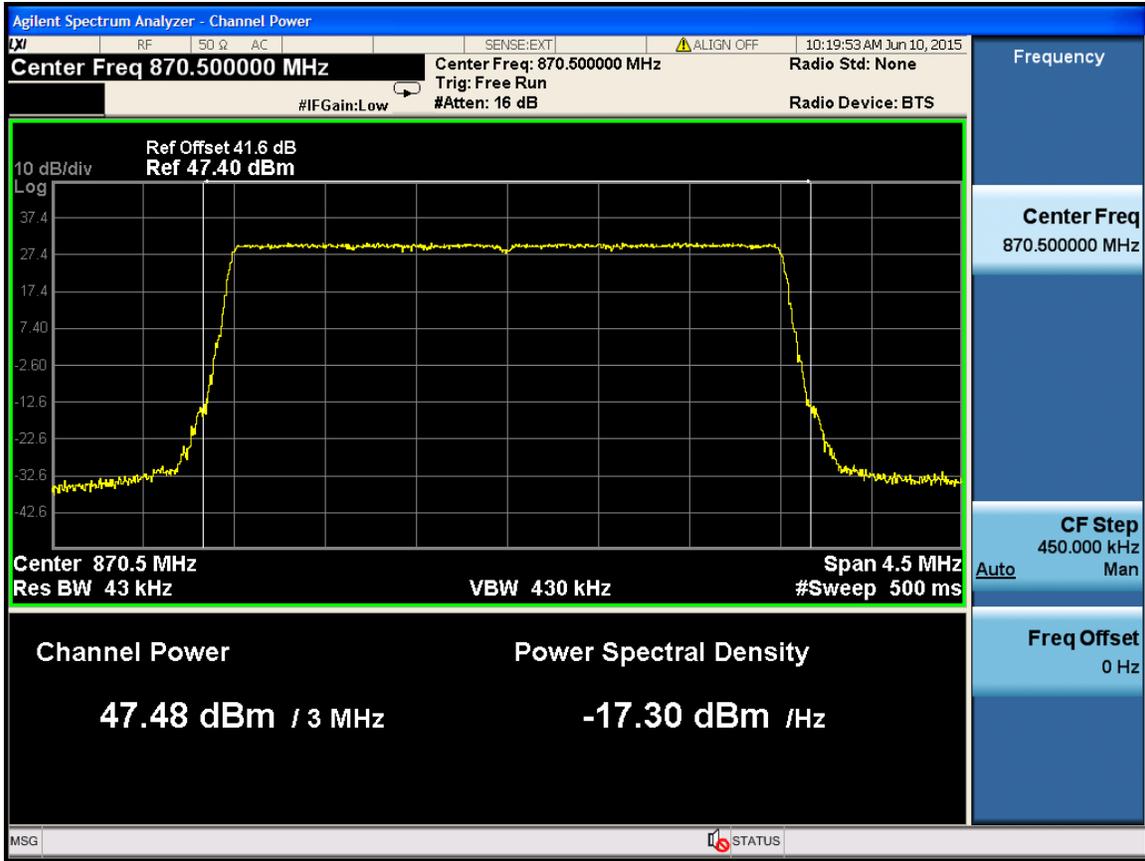
Test Mode: Transmitting LTE

Test Data:

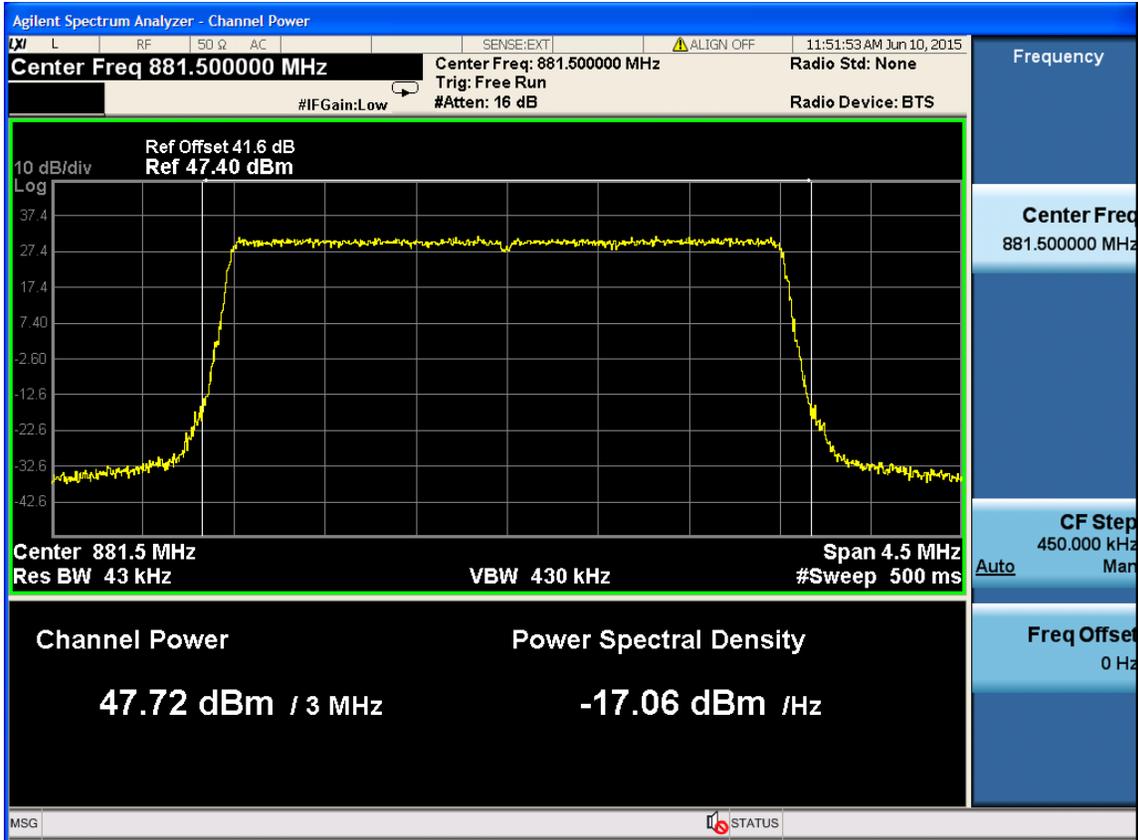
Channel Bandwidth :3M

Port	Center Freq. (MHz)	Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	the effective radiated power dBm Of single antenna	Total Power in W Of single antenna
1	870.5	47.48	15	3	2.15	57.33	540.754
	881.5	47.72	15	3	2.15	57.57	571.479
	892.5	47.55	15	3	2.15	57.4	549.541
4	870.5	47.47	15	3	2.15	57.32	539.511
	881.5	47.61	15	3	2.15	57.46	557.186
	892.5	47.57	15	3	2.15	57.42	552.077

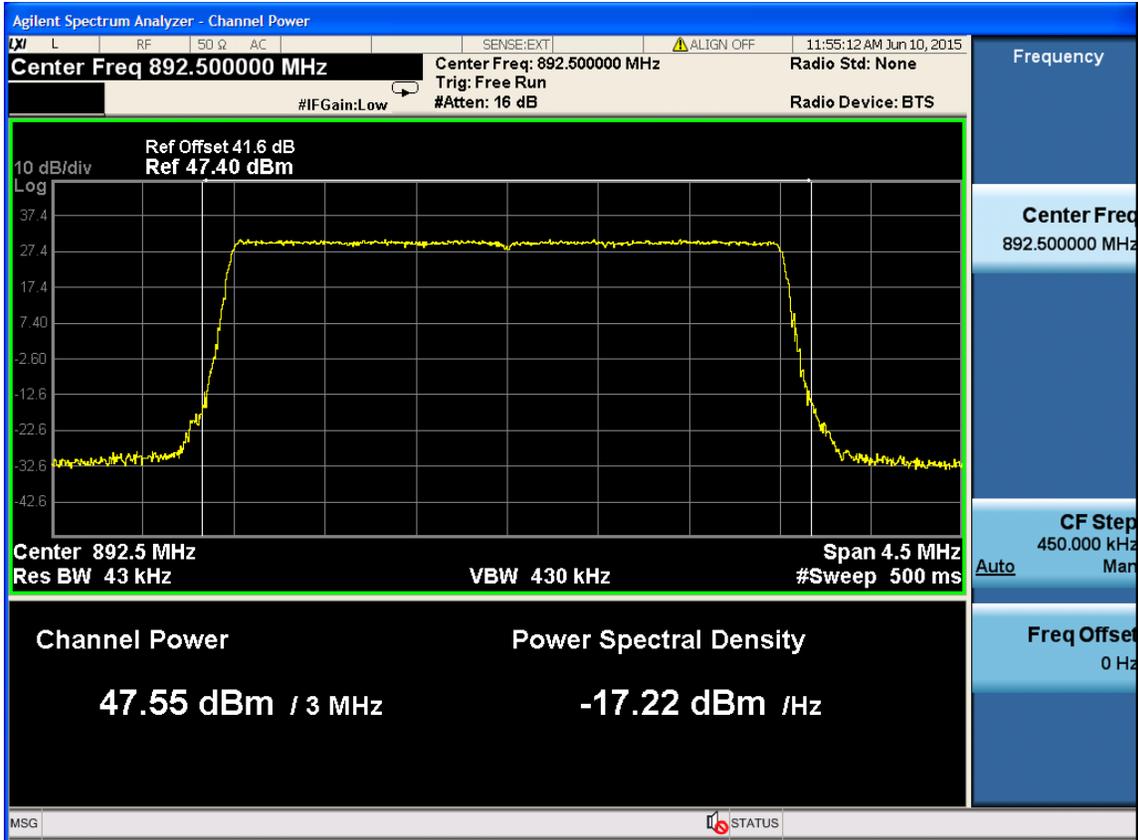
3M -Port 1 -870.5MHz .



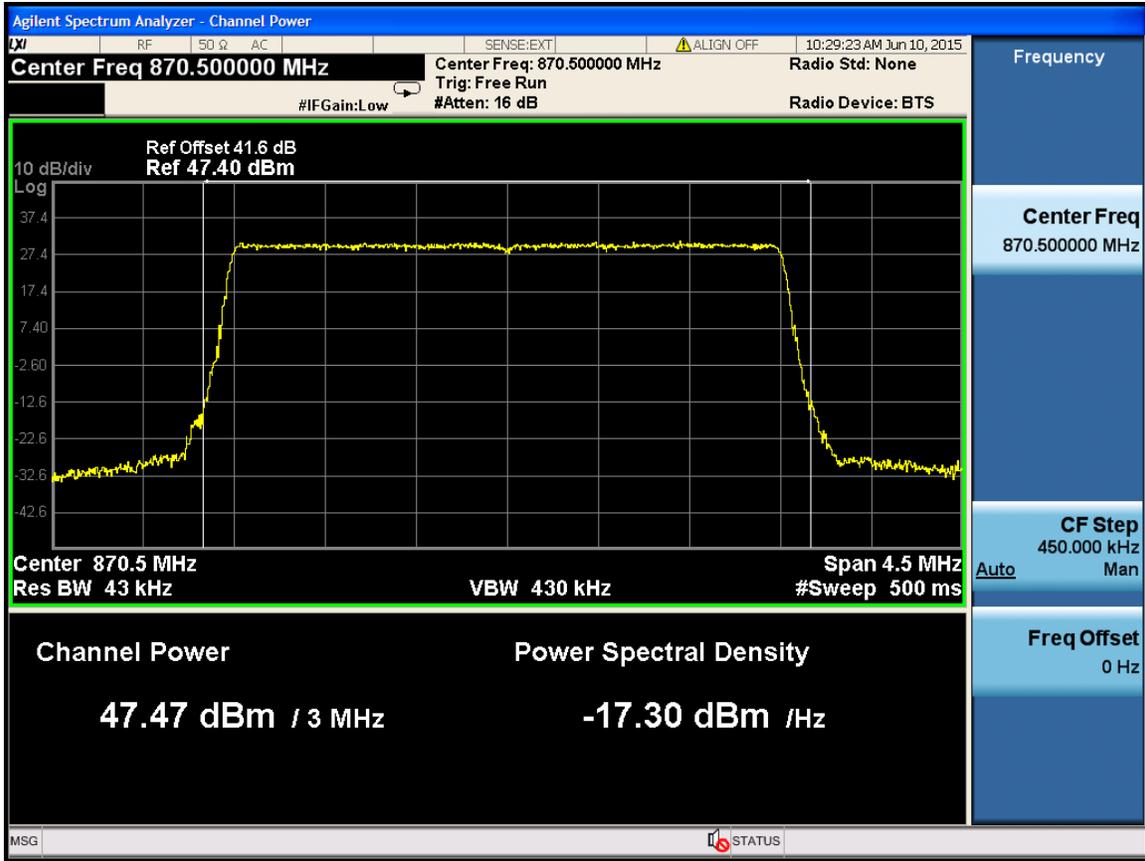
3M -Port 1 -881.5MHz



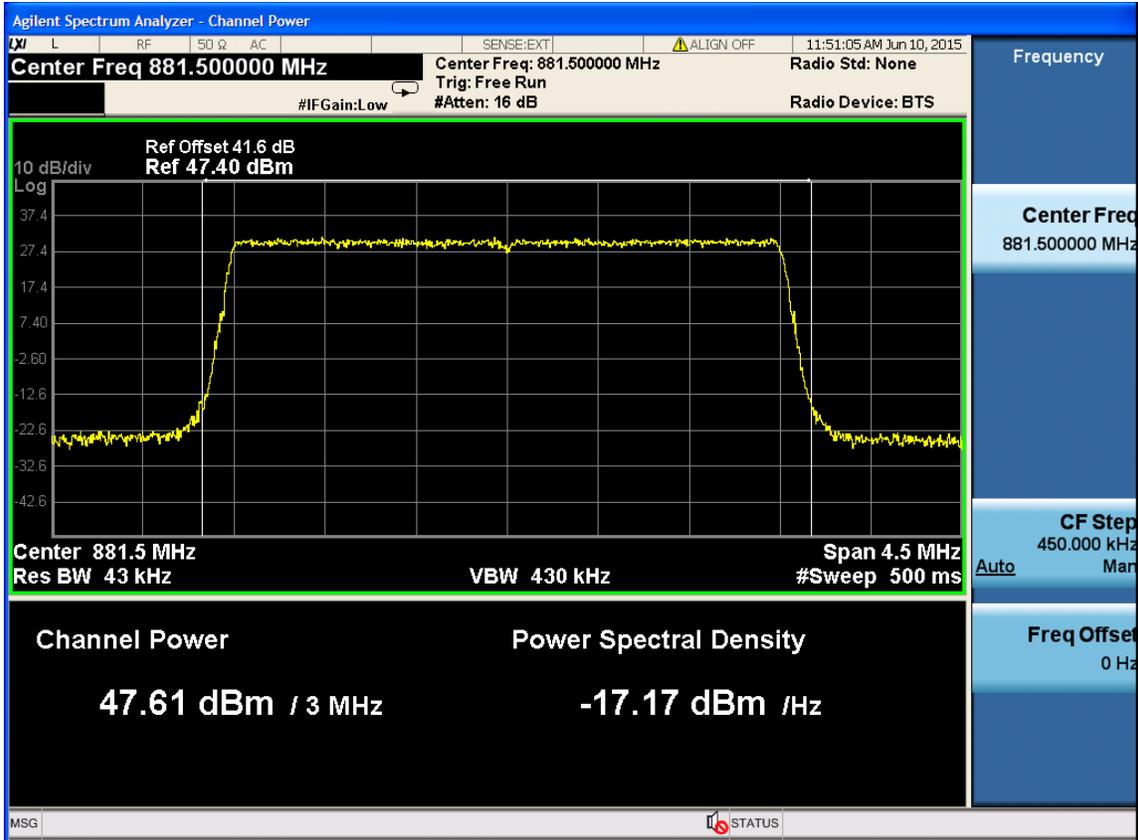
3M -Port 1 -892.5MHz



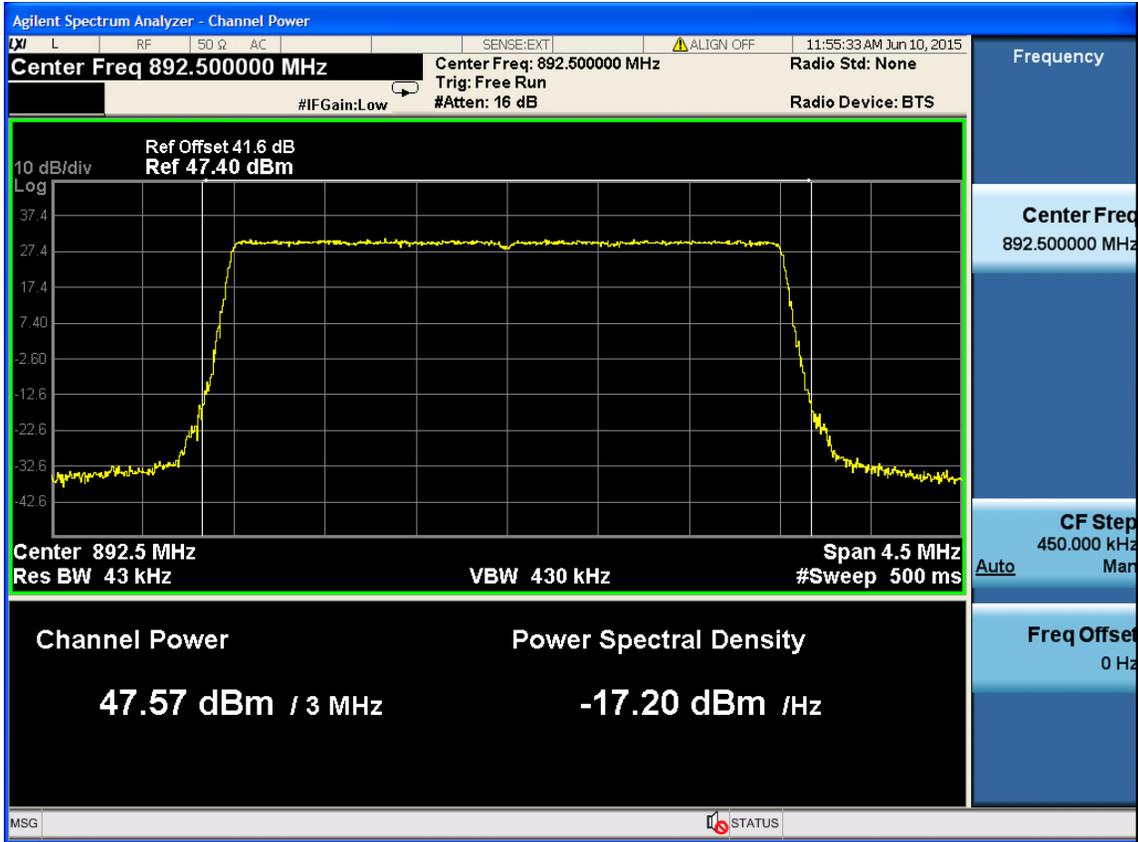
3M -Port 4 -870.5MHz



3M -Port 4 -881.5MHz



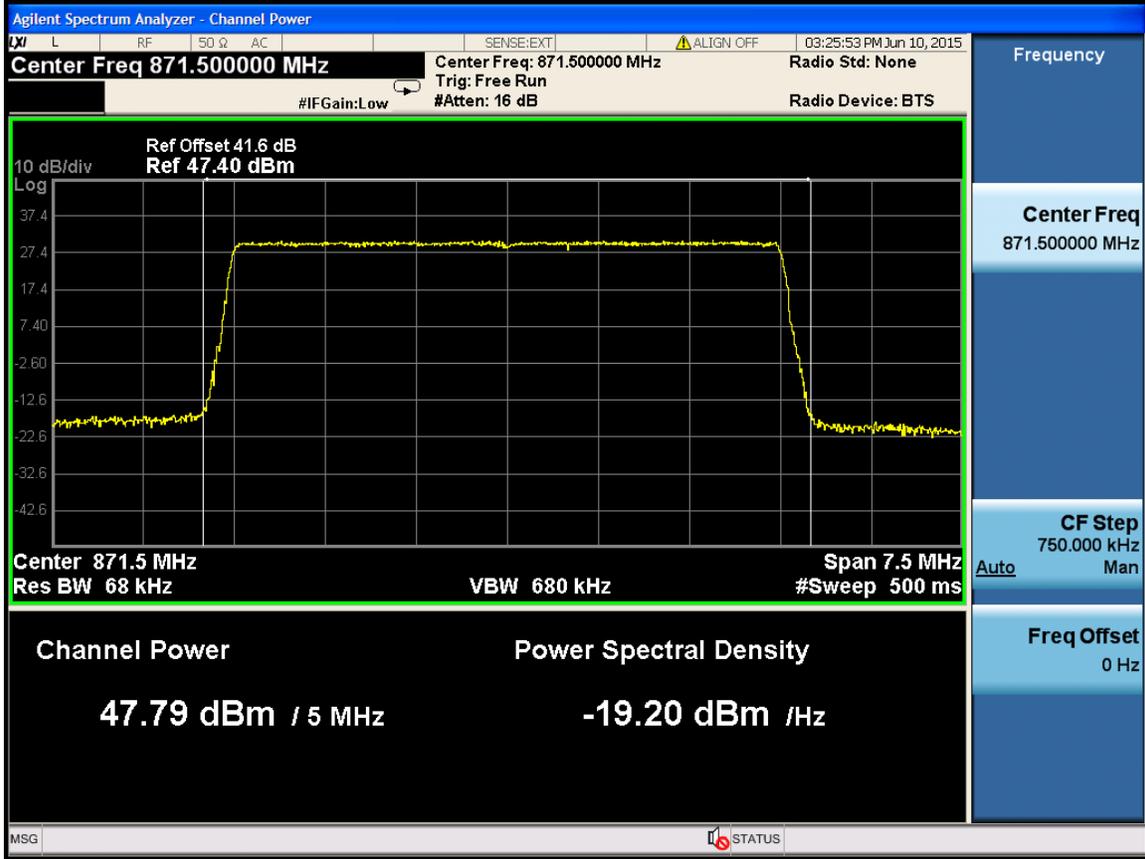
3M -Port 4-892.5MHz



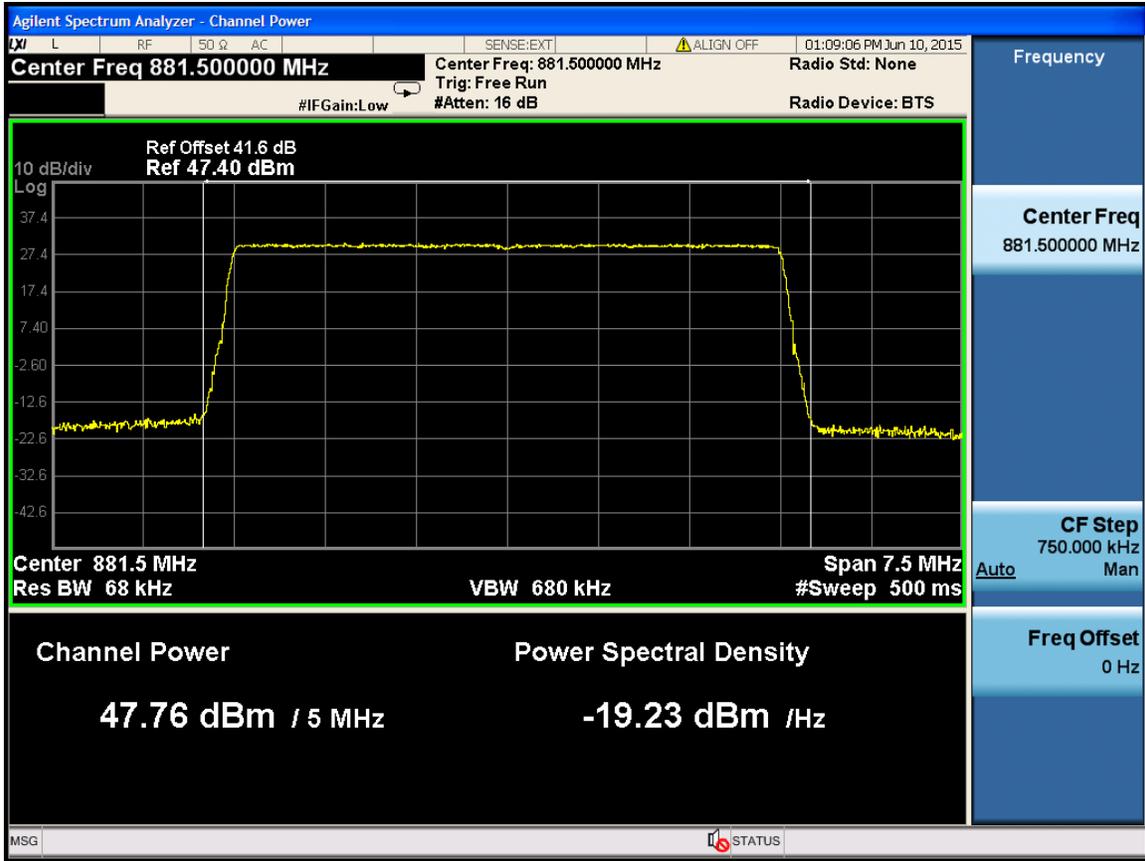
Channel Bandwidth :5M

Port	Center Freq. (MHz)	Max output Power in dBm	Antenn a gain dBi	Cable Loss dB	Dipole Antenna	the effective radiated power dBm Of single antenna	Total Power in W Of single antenna
1	871.5	47.79	15	3	2.15	57.64	580.764
	881.5	47.76	15	3	2.15	57.61	576.766
	891.5	47.71	15	3	2.15	57.56	570.164
4	871.5	47.74	15	3	2.15	57.59	574.116
	881.5	47.76	15	3	2.15	57.61	576.766
	891.5	47.6	15	3	2.15	57.45	555.904

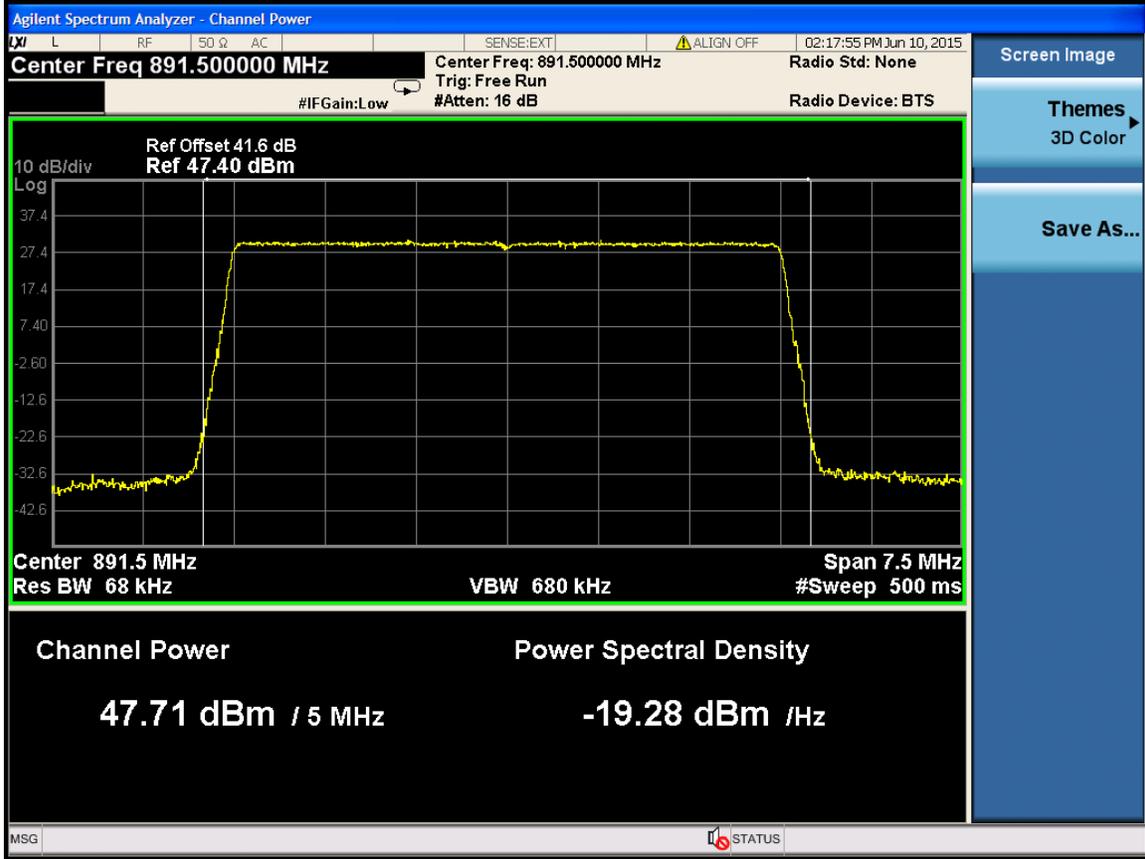
5M -Port 1 -871.5MHz



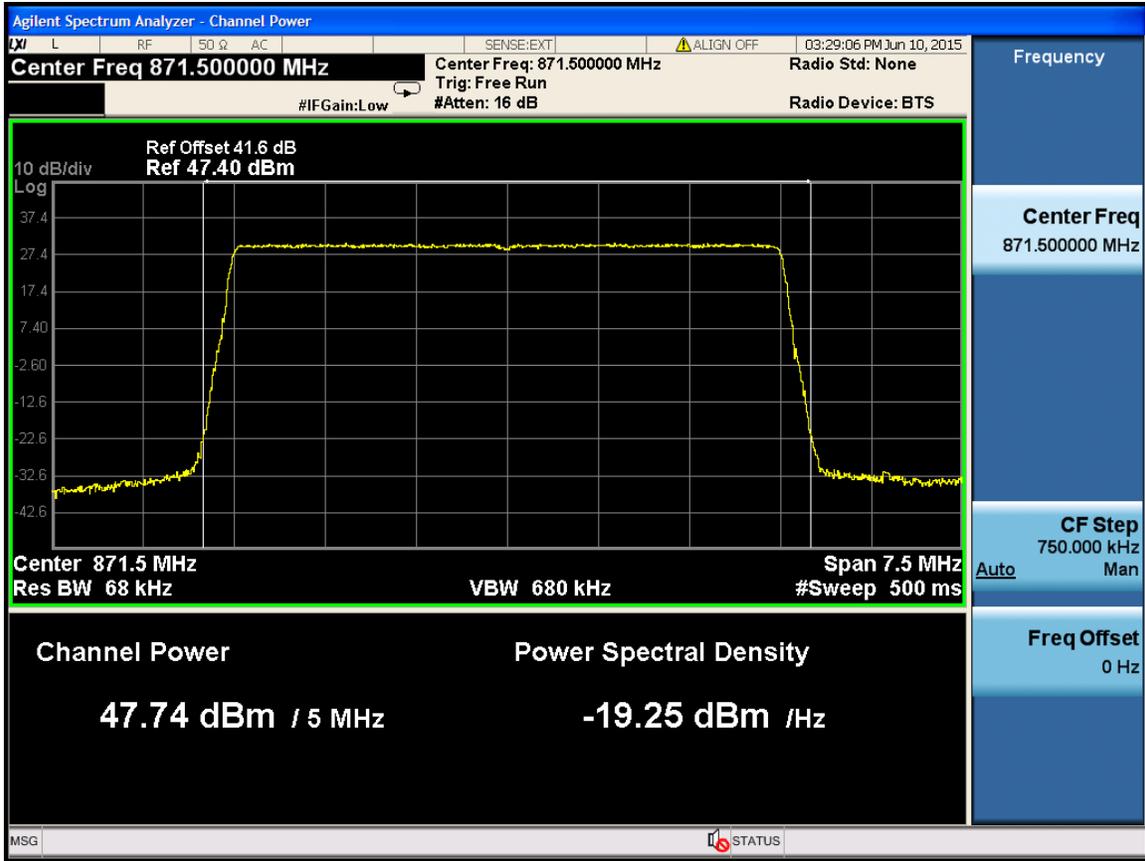
5M -Port 1 -881.5MHz



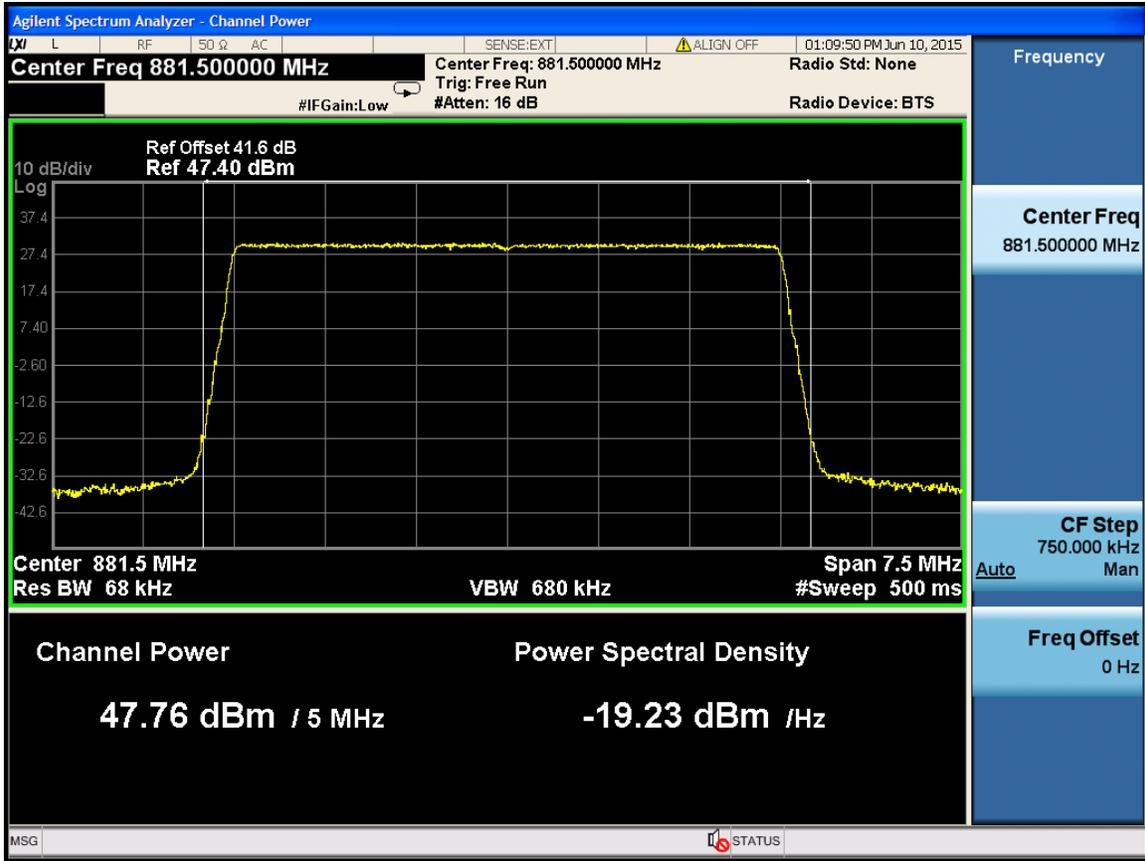
5M -Port 1 -891.5MHz



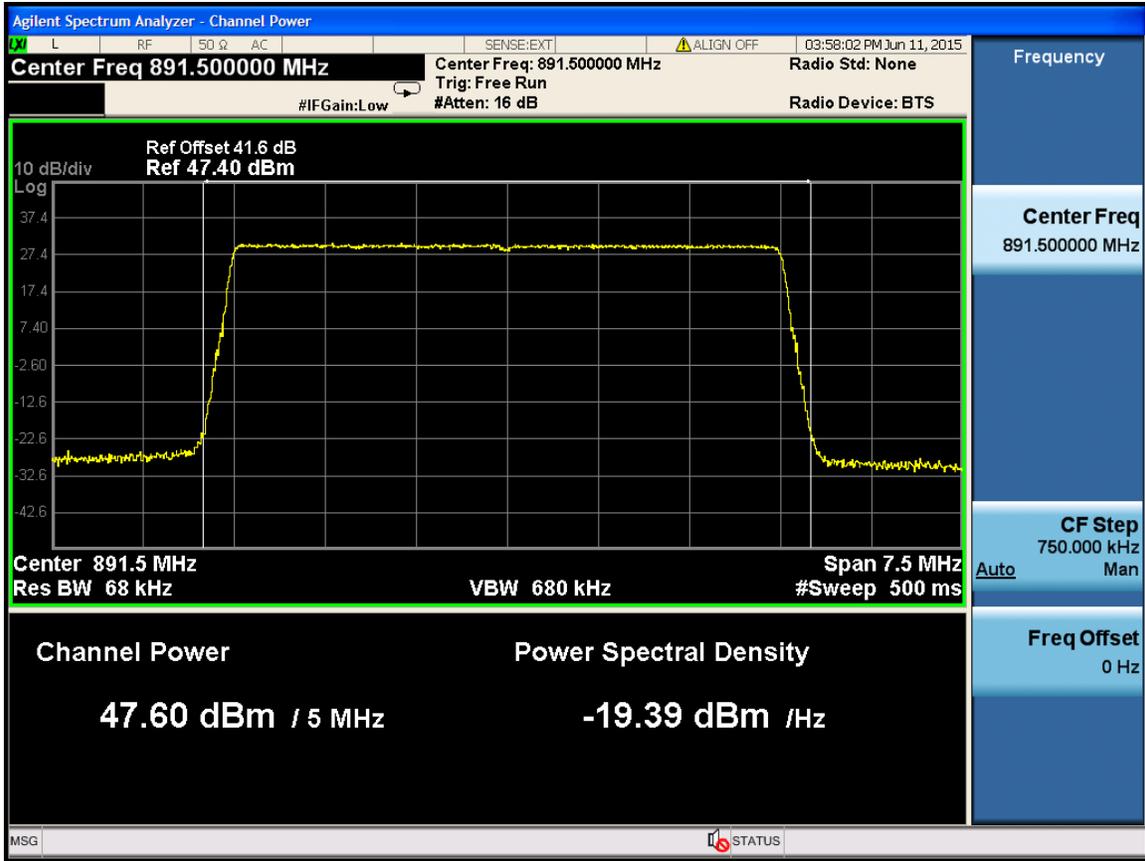
5M -Port 4 -871.5MHz



5M -Port 4 -881.5MHz



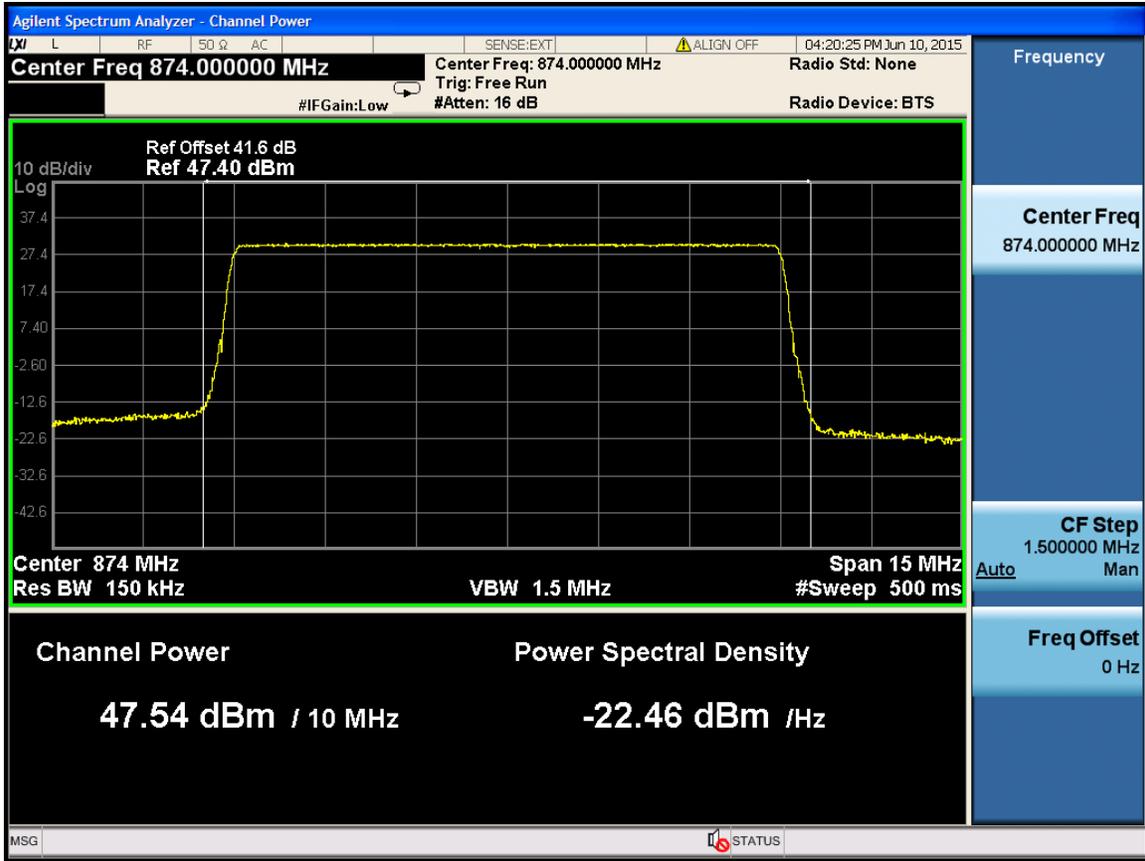
5M -Port 4-891.5MHz



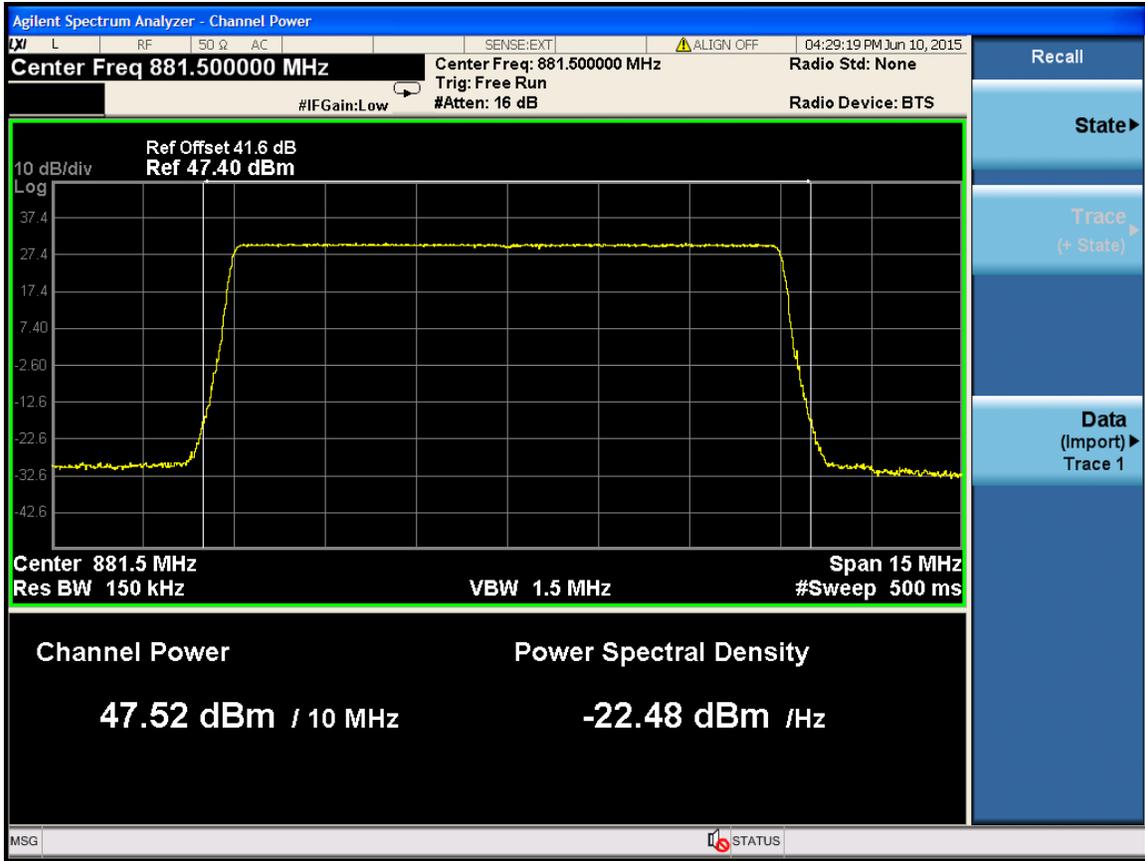
Channel Bandwidth :10M

Port	Center Freq. (MHz)	Max output Power in dBm	Antenn a gain dBi	Cable Loss dB	Dipole Antenna	the effective radiated power dBm Of single antenna	Total Power in W Of single antenna
1	874	47.54	15	3	2.15	57.39	548.277
	881.5	47.52	15	3	2.15	57.37	545.758
	889	47.77	15	3	2.15	57.62	578.096
4	874	47.37	15	3	2.15	57.22	527.230
	881.5	47.49	15	3	2.15	57.34	542.001
	889	47.77	15	3	2.15	57.62	578.096

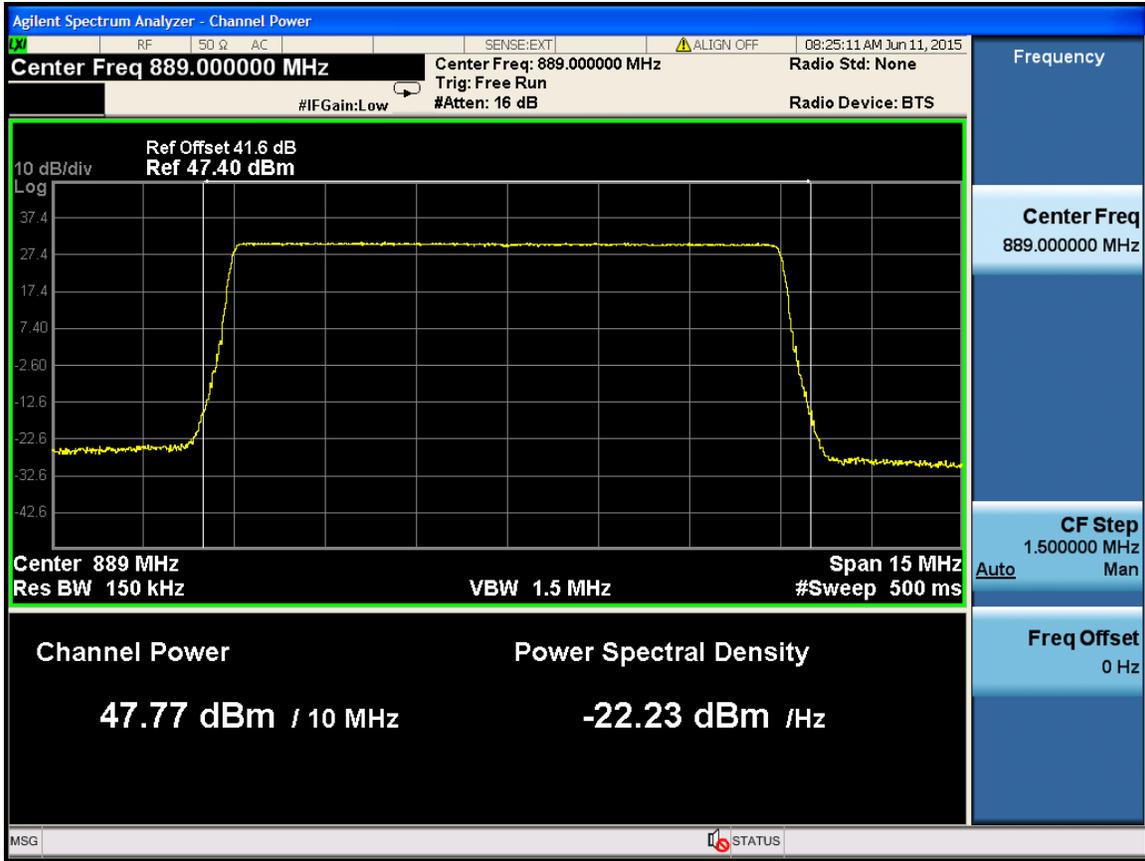
10M -Port 1 -874MHz



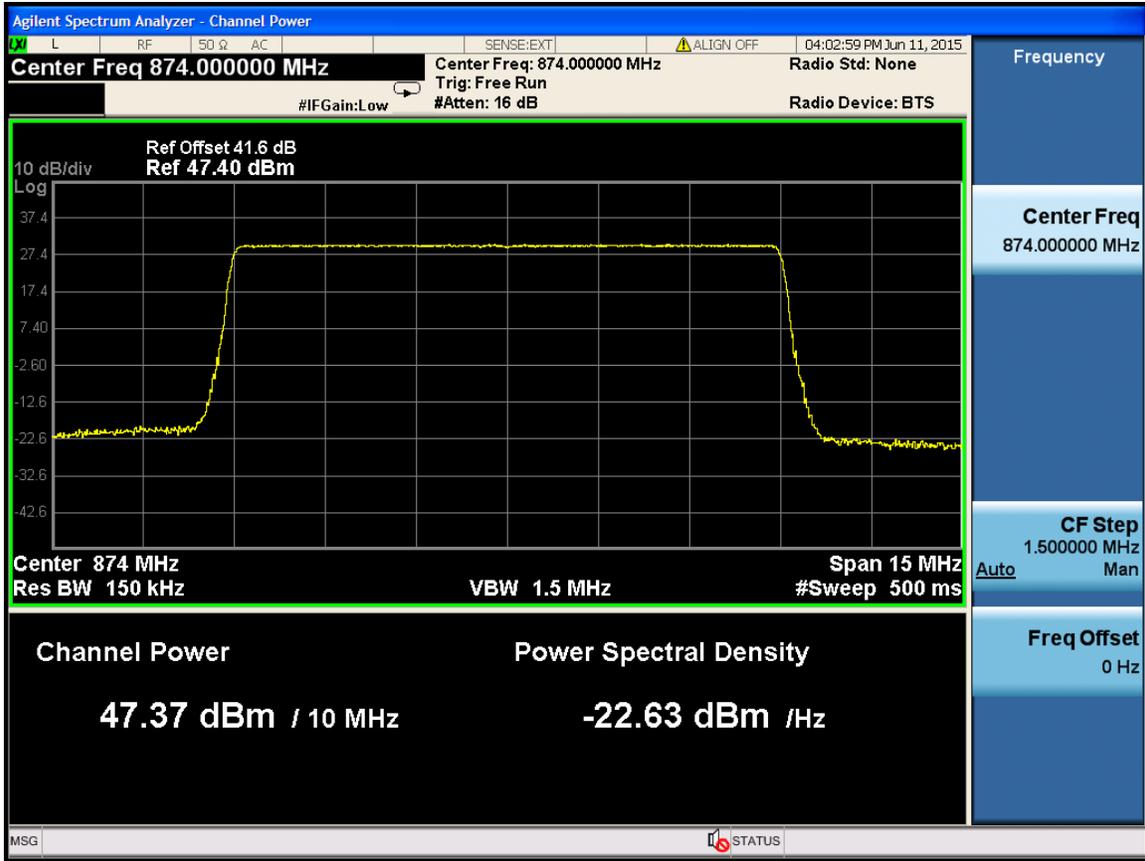
10M -Port 1 -881.5MHz



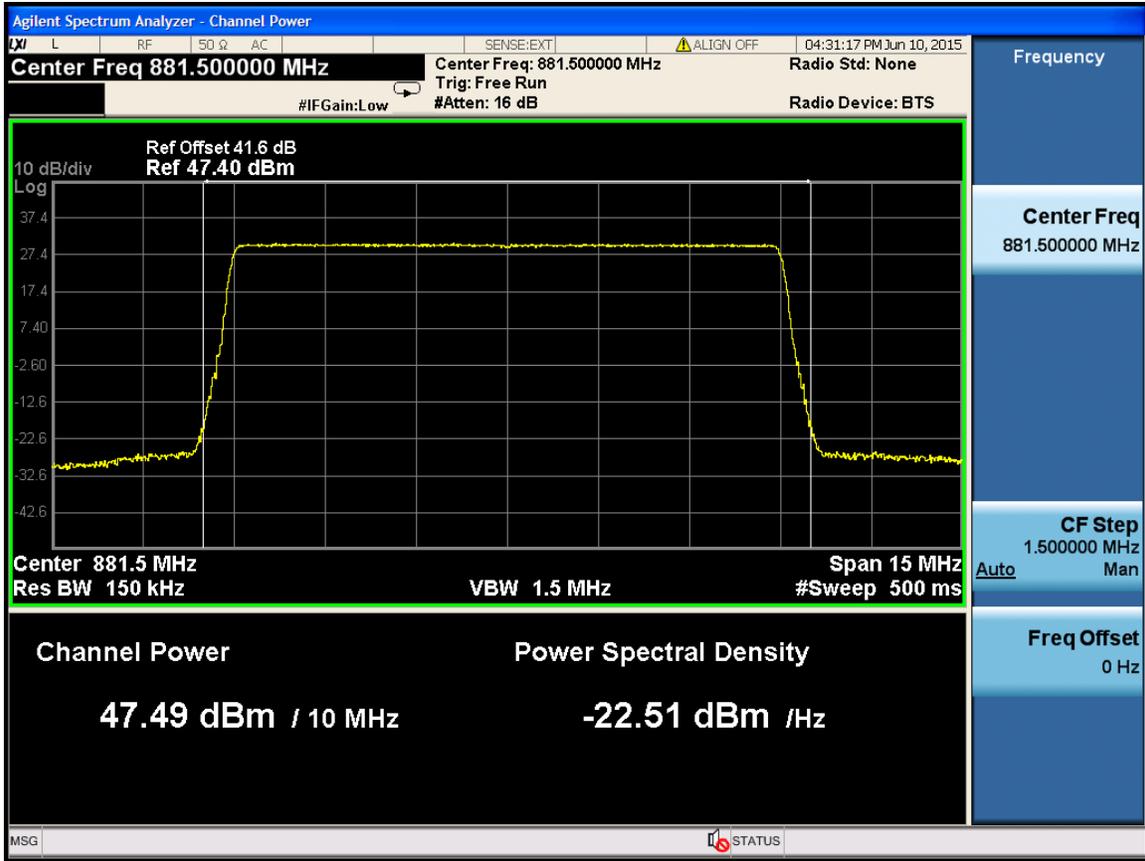
10M -Port 1 -889MHz



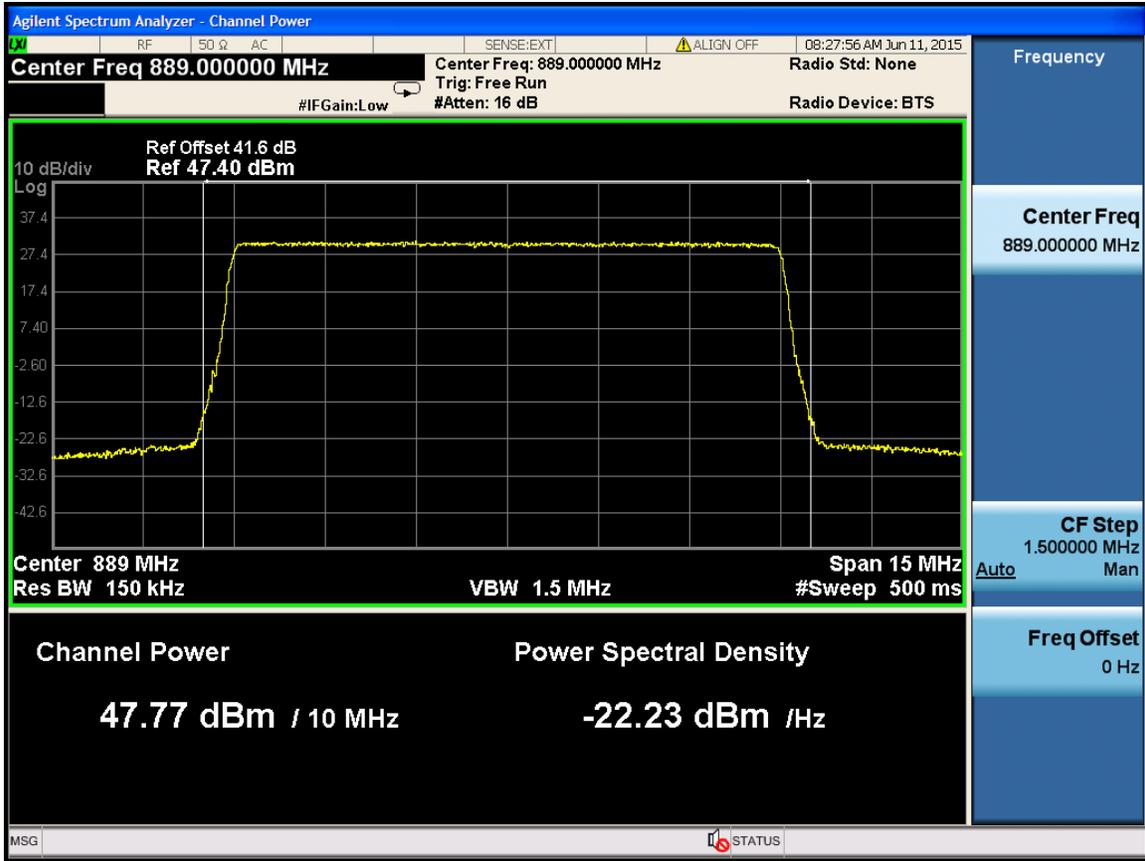
10M -Port 4 -874MHz



10M -Port 4 -881.5MHz



10M -Port 4 -889MHz



6 RF EXPOSURE

Applicable standard: FCC §2.1091 §1.1037

Limit

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated. Limits for Maximum Permissible Exposure (MPE)

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

Test Data

Predication of MPE limit at a given distance
 Equation from page 18 of OET Bulletin 65, Edition 97-01
 $S = EIRP / 4\pi R^2$

Where: S = power density

R = distance to the center of radiation of the antenna= $[EIRP / 4\pi S]^{1/2}$

According to §22.913, the the effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 1000 Watts.

Frequency 869MHz is between 300MHz and 1500MHz, and the Maximum $S=f/1500(mW/cm^2)$

⇒ R=3.71m.

This equipment should be installed and operated with minimum distance 3.71m between the radiator& your body.

Test Result: pass

7 MODULATION CHARACTERISTIC

Applicable Standard: FCC §2.1047

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	MXA Series Spectrum Analyzer	N9030A	MY49431143	2015.04.17	2016.04.17
DTS	DTS 40dB Attenuator	DTS100-40-3-1	09112005	2015.04.17	2016.04.17

Silverline	Silverline RF Cable	SLA18-NMN1T	100311-04-0001	N/A	N/A
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***statement of traceability:** ZTE Corporation Reliability Testing Center attest that all calibration have been performed per the NVLAP requirements , traceable to NIST.

Test Procedure

LTE digital mode is used by EUT.

Test Data Environmental Conditions

Temperature:	20 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

Test Result: Pass

Test Mode: Transmitting LTE

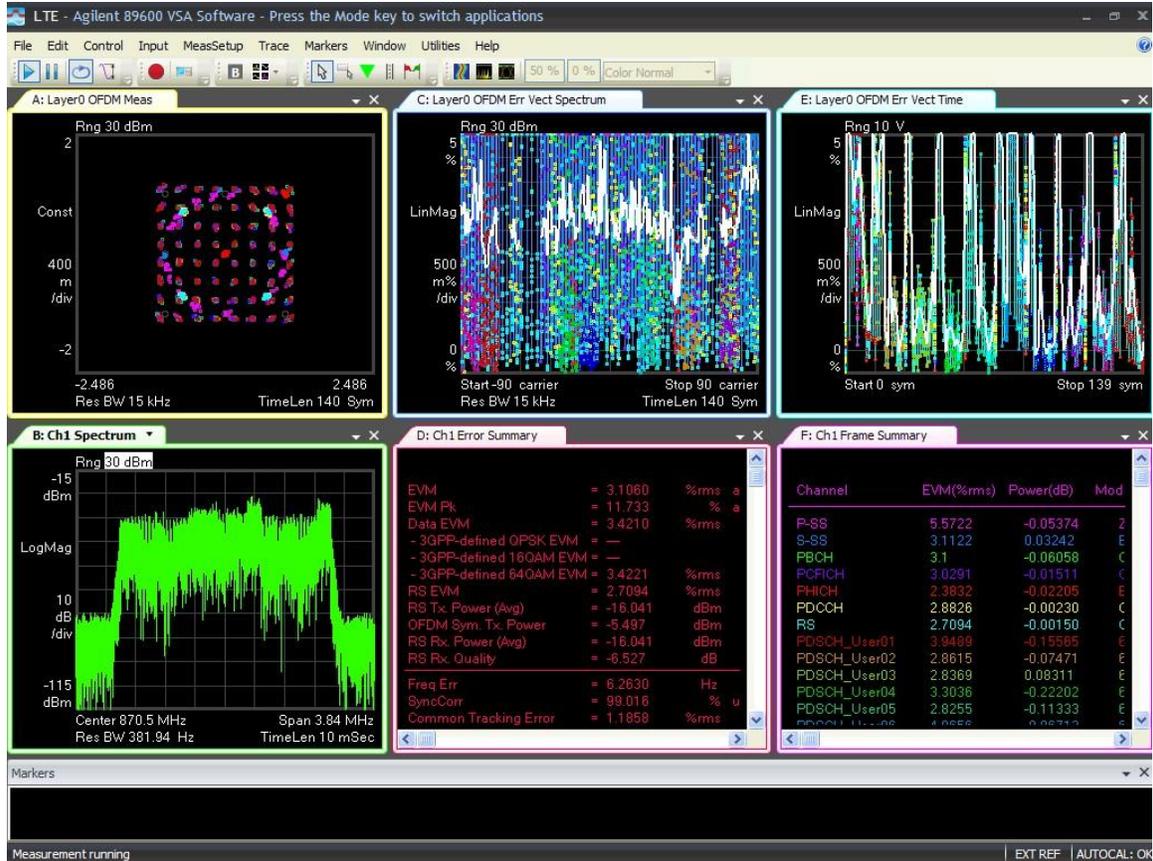
Test Data:

Channel Bandwidth :3M

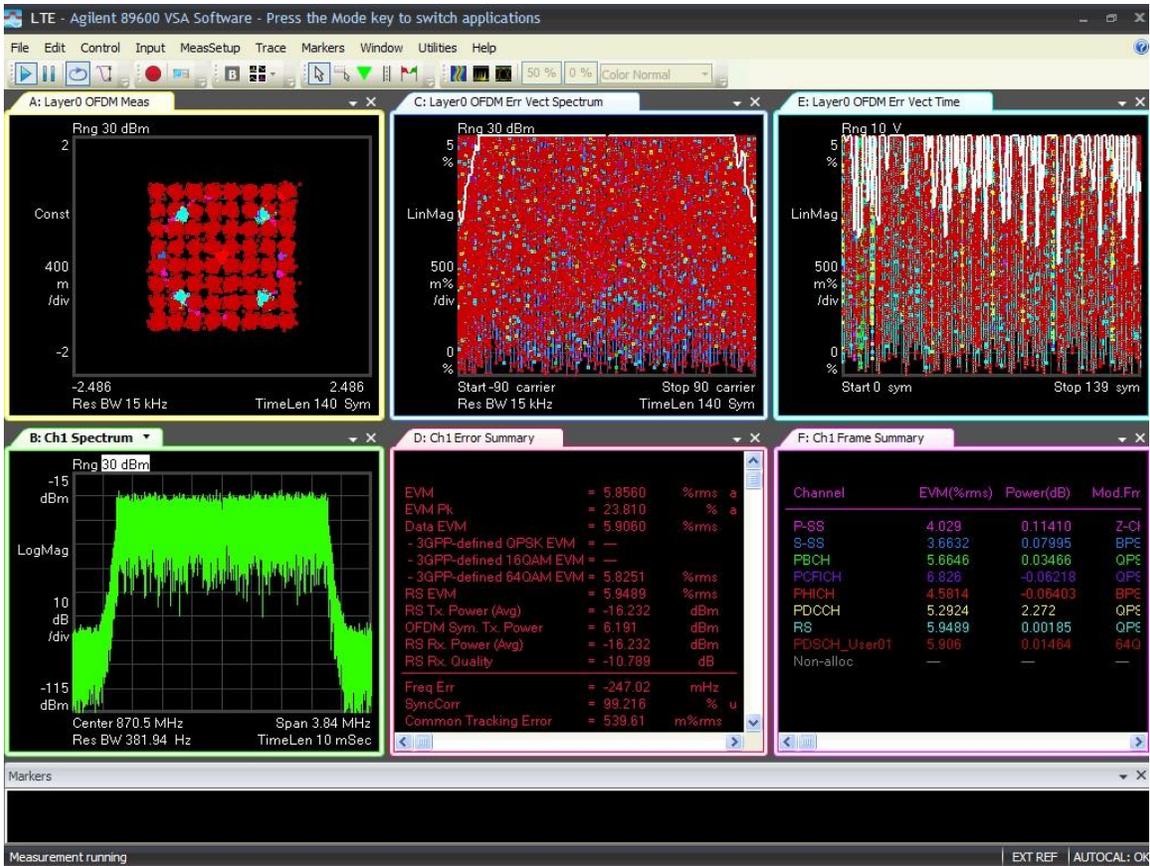
Port	Frequency (MHz)	Test mode	EVM%
1	870.5	TM2.0	3.4221
		TM3.1	5.8251
		TM3.2	10.304
		TM3.3	8.1370
	881.5	TM2.0	0.82661
		TM3.1	5.8777
		TM3.2	10.264
		TM3.3	8.1454
	892.5	TM2.0	1.0005
		TM3.1	5.8309
		TM3.2	10.288
		TM3.3	8.1261
4	870.5	TM2.0	3.3320
		TM3.1	5.8243
		TM3.2	10.288
		TM3.3	8.1254

881.5	TM2.0	1.0491
	TM3.1	5.8625
	TM3.2	10.287
	TM3.3	8.1142
892.5	TM2.0	0.80144
	TM3.1	5.8438
	TM3.2	10.277
	TM3.3	8.1415

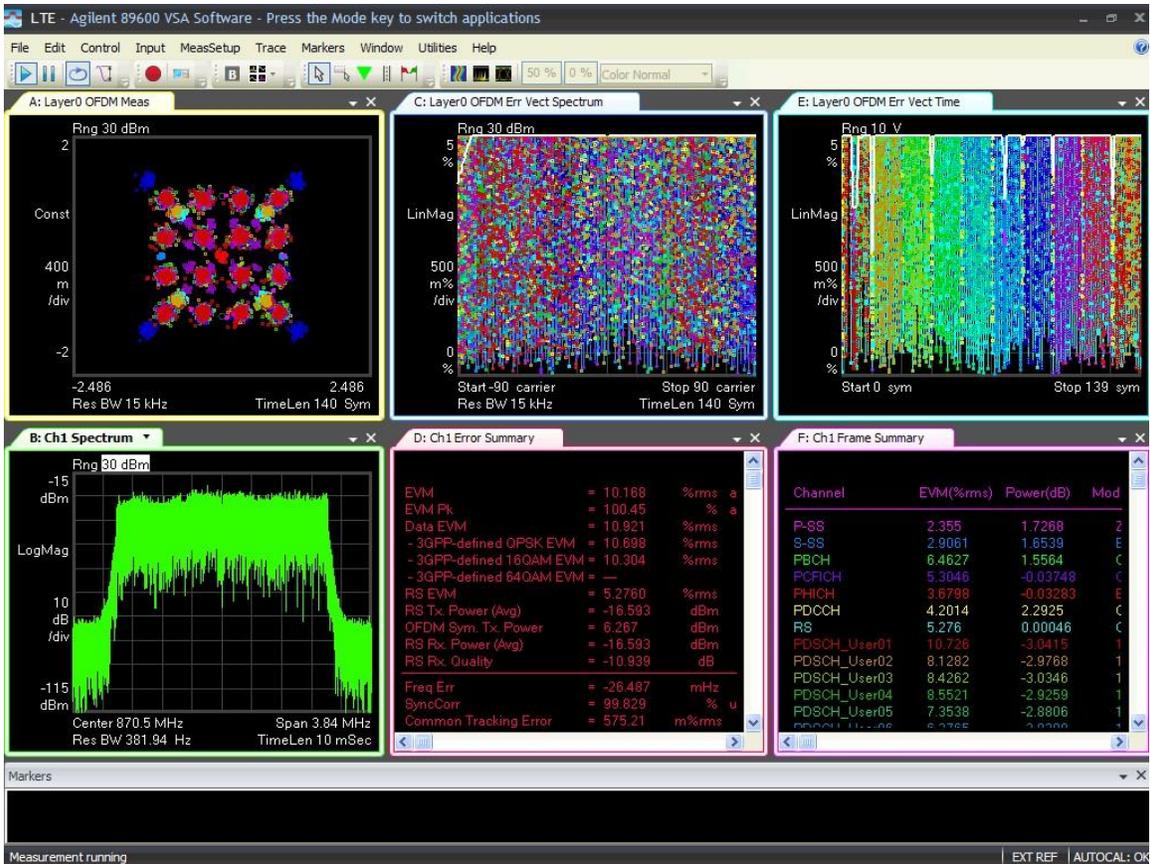
3M -Port 1 -870.5MHz-TM2.0



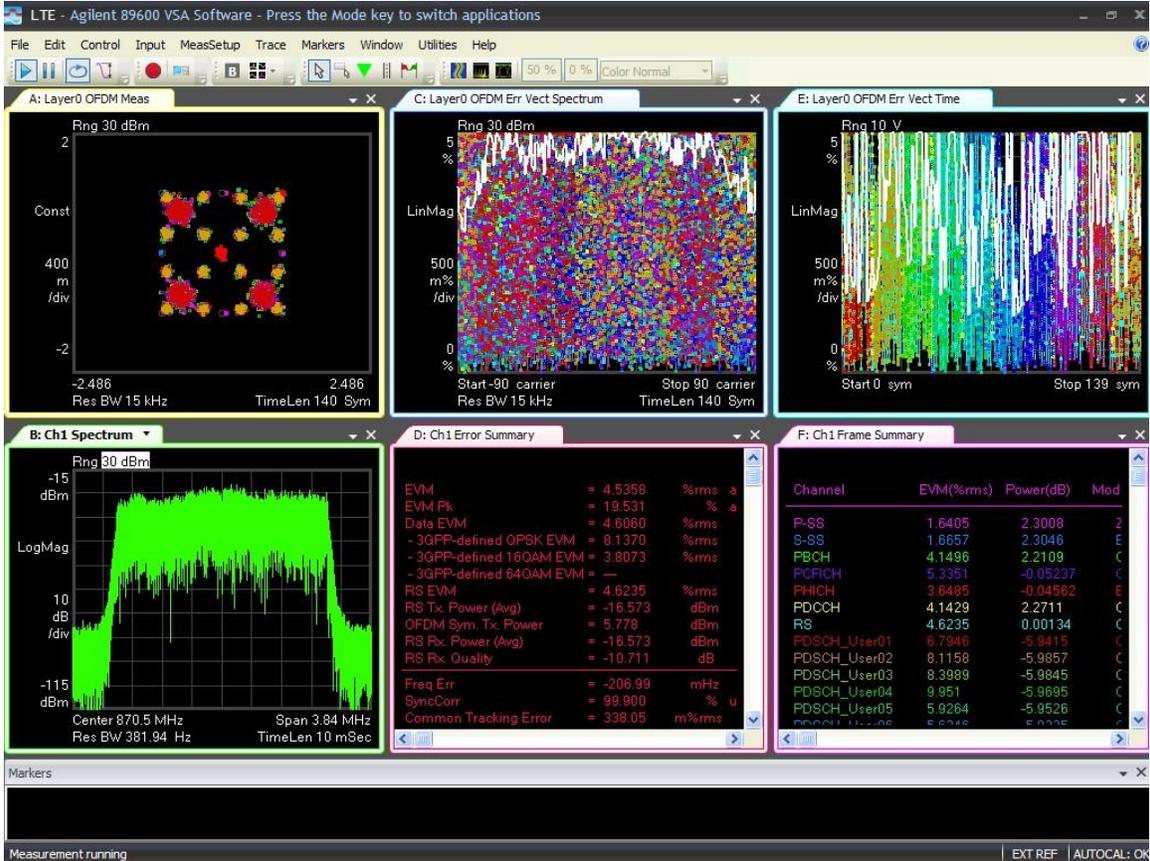
3M -Port 1 -870.5MHz -TM3.1



3M -Port 1 -870.5MHz -TM3.2



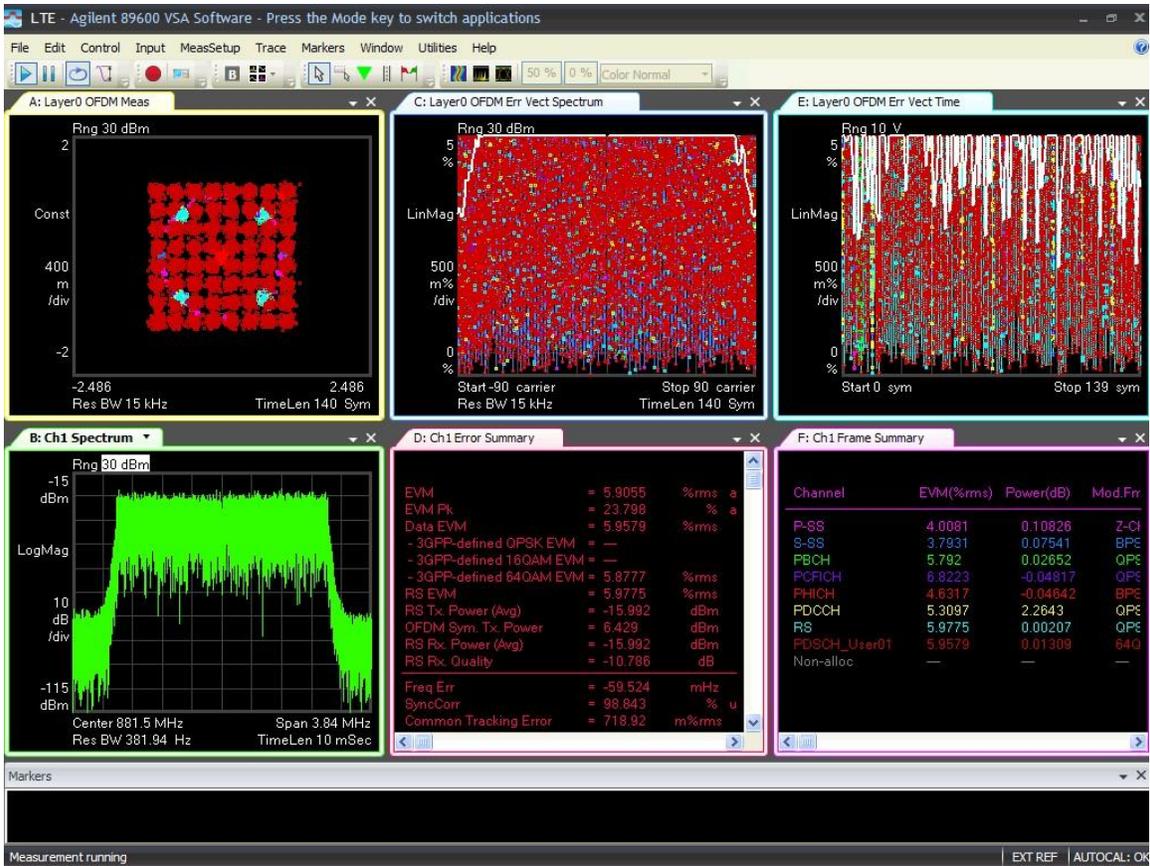
3M -Port 1 -870.5MHz -TM3.3



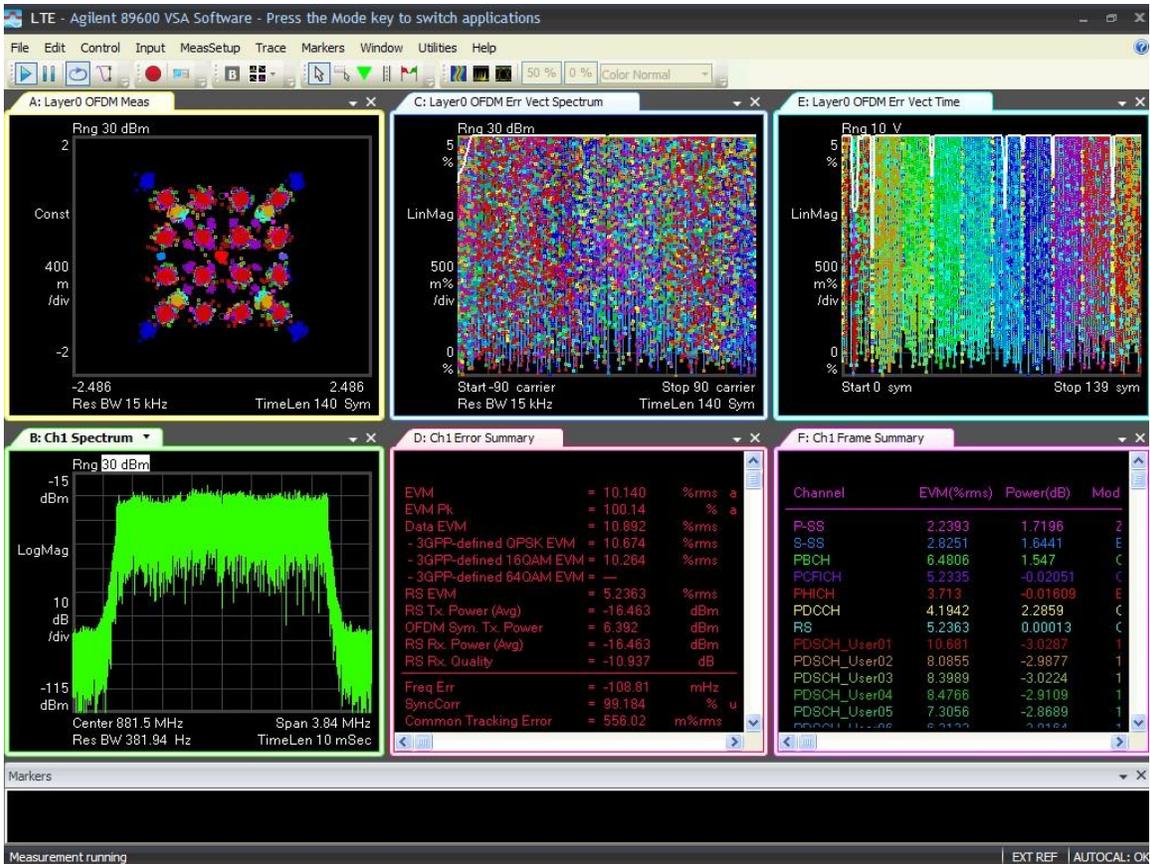
3M -Port 1 -881.5MHz-TM2.0



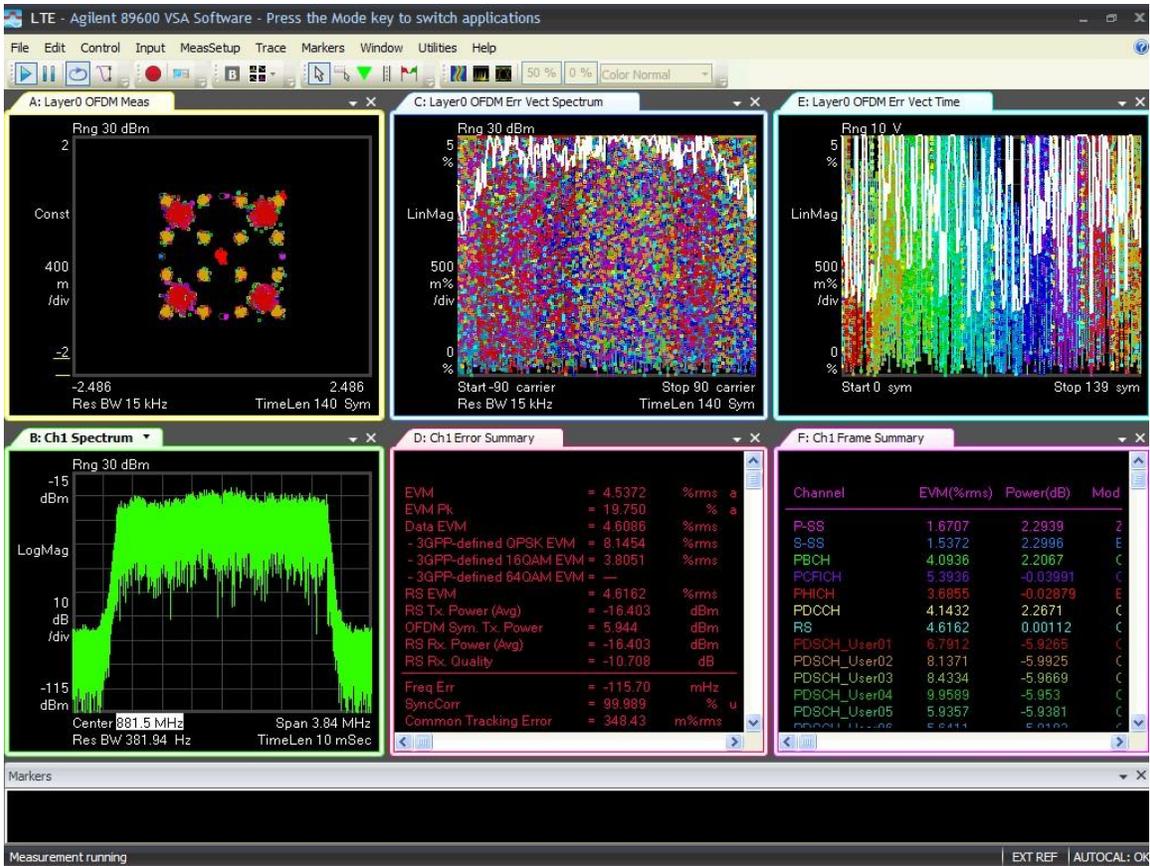
3M -Port 1 -881.5MHz -TM3.1



3M -Port 1 -881.5MHz -TM3.2



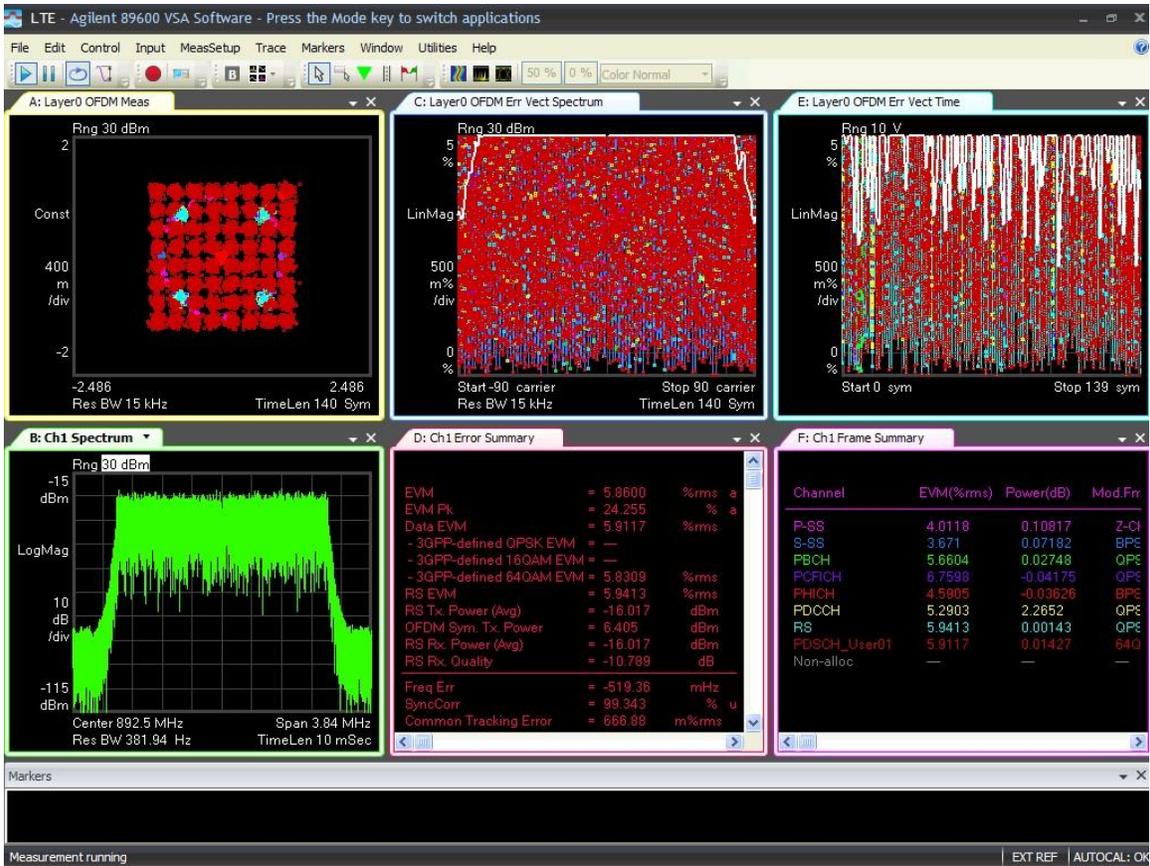
3M -Port 1 -881.5MHz -TM3.3



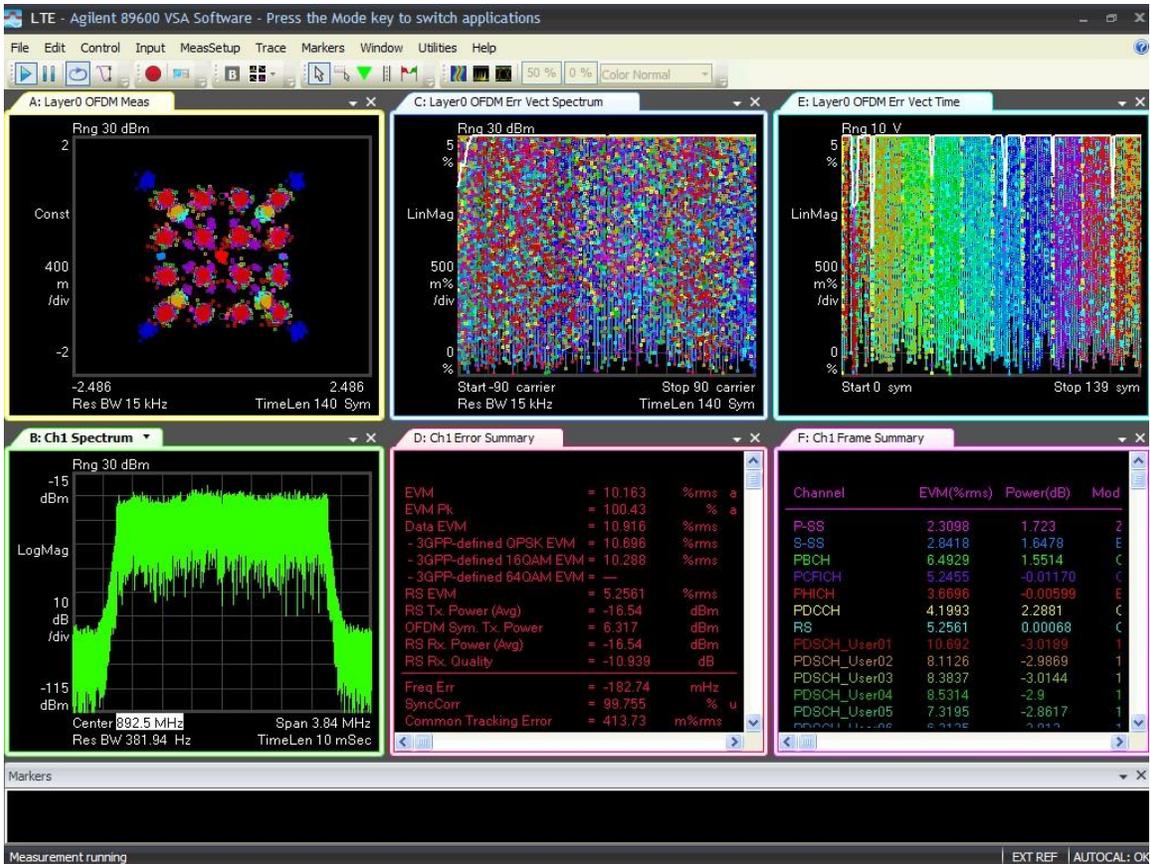
3M -Port 1 -892.5MHz-TM2.0



3M -Port 1 -892.5MHz -TM3.1



3M -Port 1 -892.5MHz -TM3.2



3M -Port 1 -892.5MHz -TM3.3