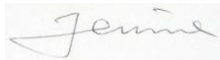
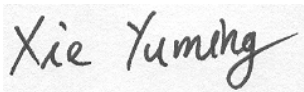


IC
MEASUREMENT AND TEST REPORT
For
ZXSDR R8882 S1700

FCC ID: Q78-R8882S1700
IC ID: 5200A-R8882S1700

This Report Concerns: ☒ Original Report	Equipment Type: Remote Radio Unit
Test Engineer:  Report No: RF 2015203RP-2 Test Date: May 1 – May 8, 2015 Reviewed By:  Issue Date: May 10, 2015	

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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1 GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The ZTE Corporation's product, model number: ZXSDR R8882 S1700 or the "EUT" as referred to in this report is a UMTS and LTE Remote Radio Unit.

Technical specification:

Size: 472 mm x 320 mm x 152 mm (HxWxD)

Input voltage: -37V~-57V

Frequency range: 2110MHz~2155 MHz

Max RF output power: 47.7dBm

Gain of the antenna: 15dBi

Modulation type of emission: LTE

Appearance of EUT:



FIGURE 1 APPEARANCE OF ZXSDR R8882 S1700

Objective

This Type approval report is prepared on behalf of ZTE Corporation in accordance with RSS-Gen Issue 4 and RSS-139 Issue 2 and FCC part 27.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All tests and measurements indicated in this document were performed in accordance with rss gen and rss195. As well as the following parts:

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 ZTE Corporation to collect test data is located in the ZTETS, R&D1-1F, ZTE Industrial Park, Liuxian Av, Shenzhen, Guangdong, 518057, P.R.China, Tel: +86-755-26770345. Test site at ZTE Corporation has been fully described in reports submitted to the IC and the registration number is 5200A. The details of these reports have been found to be in compliance with the requirements of IC Rules. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

2 SYSTEM TEST CONFIGURATION

Description of Test Configuration

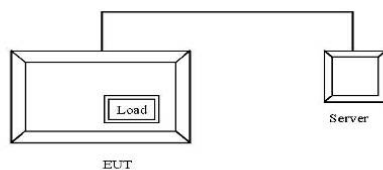
Justification

The EUT was configured for testing according to TIA/EIA-603C.

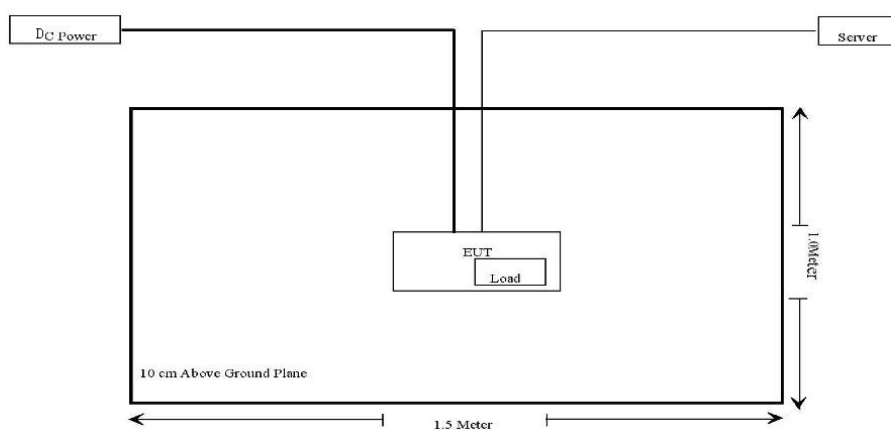
The final qualification test was performed with EUT operating at normal mode.

When EMC test, configure R8882 S1700 work at single carrier, 10MHz bandwidth and output at rated power, the antennas connected to loads.

Configuration of Test Setup



Block Diagram of Test Setup



3 SUMMARY OF TEST RESULTS

IC RULES	DESCRIPTION OF TEST	RESULT
RSS139§6.1	Frequency Plan	Compliant
RSS139§6.2	Types of Modulation	Compliant
RSS139§6.3	Frequency Stability	Compliant
RSSGEN§6.6	Occupied Bandwidth	Compliant
RSS139§6.4	Transmitter Output Power	Compliant
RSS139§6.5	Transmitter Unwanted Emissions	Compliant
RSS139§6.6	Receiver Spurious Emissions	Compliant

FCC RULES	DESCRIPTION OF TEST	RESULT
§ 2.1046 , §27.50	Transmitter output Power	Compliant
§ 2.1091 ,§1.1037	RF Exposure	Compliant
§ 2.1047	Modulation Characteristic	Compliant
§ 2.1053, §27.53	Spurious Radiated Emissions	Compliant
§ 2.1051, §27.53	Spurious Emissions AT Antenna Terminals	Compliant
§ 2.1049,§27.53	Occupied Bandwidth	Compliant
§ 2.1051,§27.53	Band Edge	Compliant
§ 2.1055	Frequency stability	Compliant

4 FREQUENCY PLAN

ZXSDR R8882 S1700 will use frequency range: DL: 2110-2155MHz.UL:1710-1755MHz

5 TYPE OF MODULATION

Applicable Standard: RSS-139 § 6.2

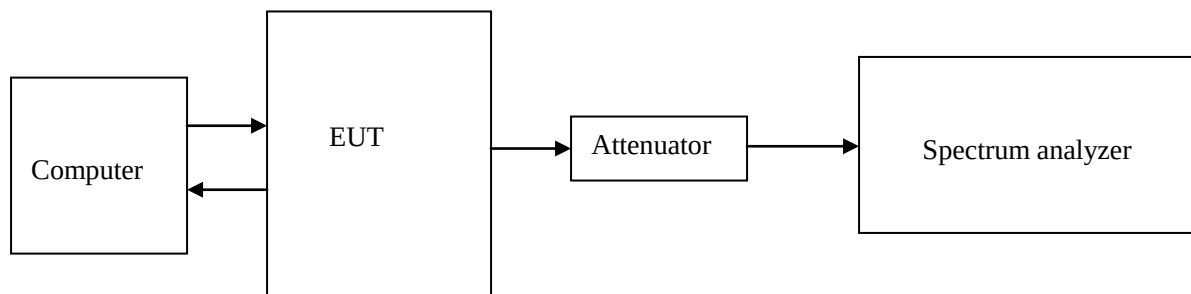
The modulation used shall be digital.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	PXA Series Spectrum Analyzer	N9030A	MY49431143	2014.09.16	2015.09.16
Agilent	PXA Series Spectrum Analyzer	N9020A	MY49100652	2014.05.29	2015.05.29
DTS	DTS 40dB Attenuator	DTS100-40-3-1	201312160104	2014.09.16	2015.09.16

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

Test Procedure



The EUT is connected to the input of the spectrum analyzer through sufficient attenuation. EUT send different modulation characteristic UMTS and LTE signals and test by spectrum analyzer.

Environmental Conditions

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

Test Result: Pass

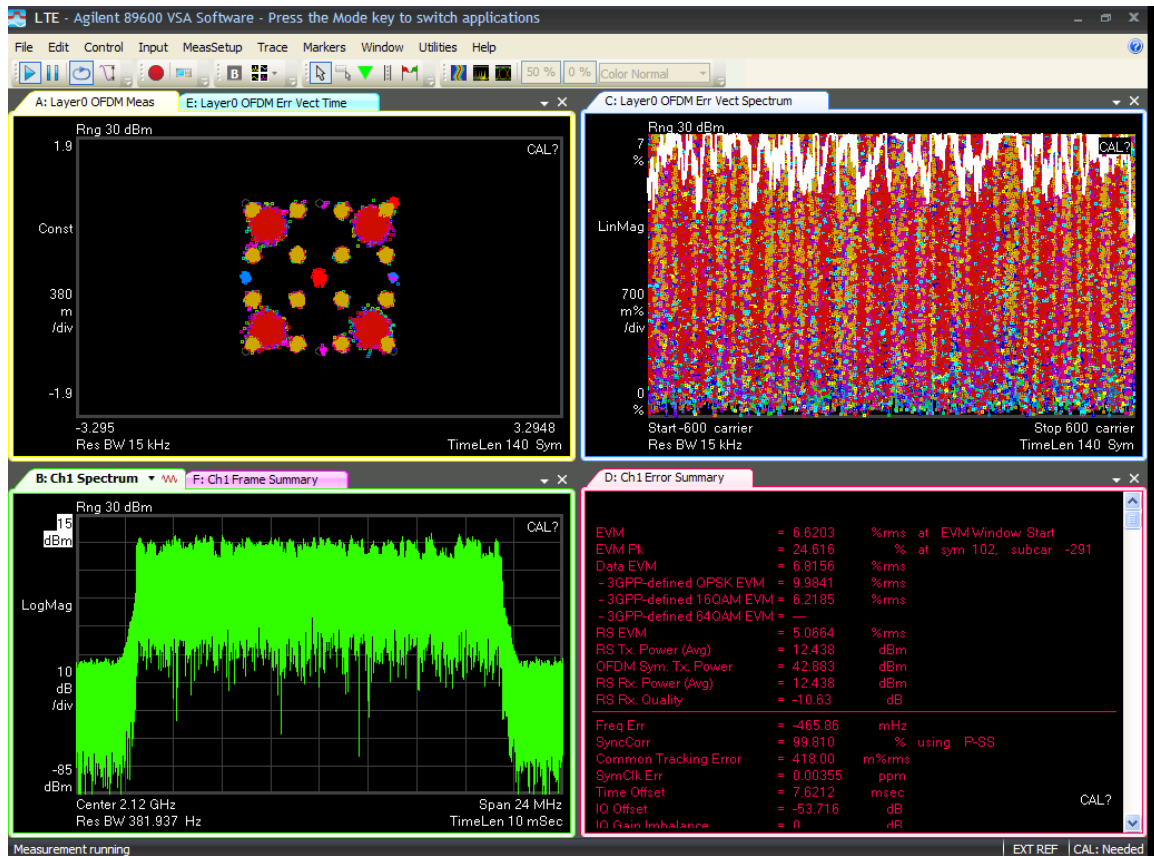
Test Mode: Transmitting UMTS+LTE

configuration	Radio mode	Bandwidth	LTE frequency And Power		UMTS Carrier 1 frequency And Power		UMTS Carrier 2 frequency And Power	
NO	UMTS+LTE	IBW:40MHz	Frequency (MHz)	Power/Port	Frequency (MHz)	Power /Port	Frequency (MHz)	Power /Port
1	1L+2U	2110-2150	2110-2130	20W	2142.4	15W	2147.4	15W
2	1L+2U	2110-2150	2110-2125	20W	2142.4	15W	2147.4	15W
3	1L+2U	2115-2155	2115-2125	20W	2147.4	15W	2152.4	15W
4	1L+1U	2115-2155	2115-2130	20W	2152.4	30W		

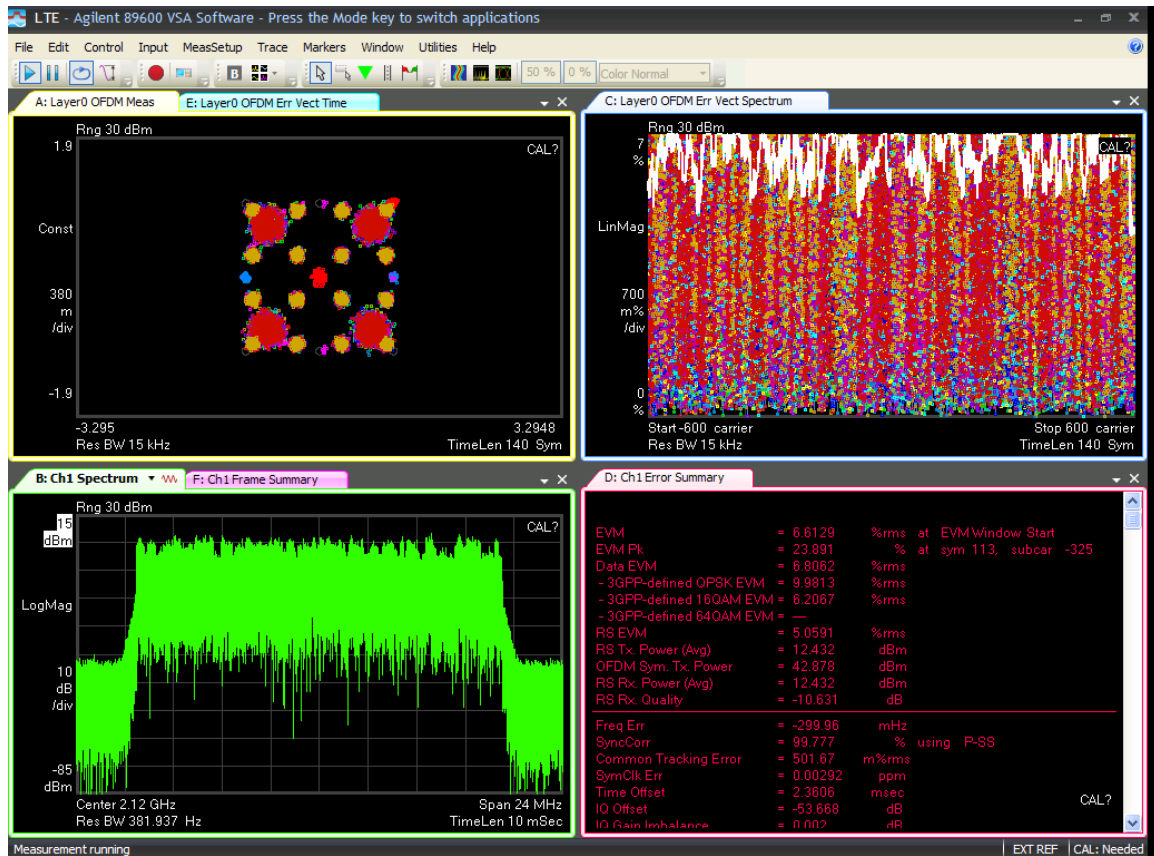
LTE Test Data:

configuration	Port	LTE Carrier Center Freq. (MHz)	Modulation Characteristics		
			QPSK	16QAM	64QAM
1	1	2120	9.98	7.36	5.58
	2	2120	9.98	7.23	5.57
2	1	2117.5	9.55	7.73	5.51
	2	2117.5	9.55	7.75	5.49
3	1	2120	9.83	7.68	5.75
	2	2120	9.82	7.69	5.77
4	1	2122.5	10.00	8.16	5.90
	2	21.22.5	10.04	8.17	5.89

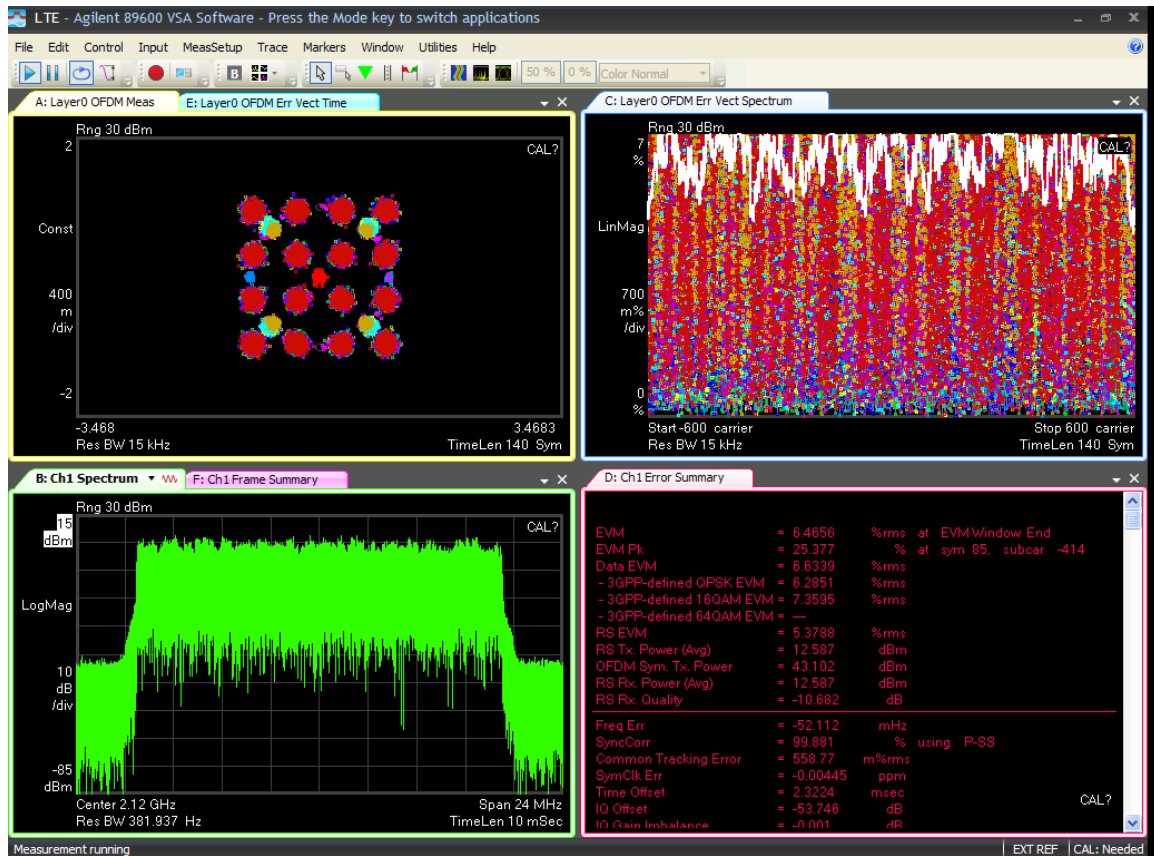
Configuration1:
LTE-QPSK-Port 1



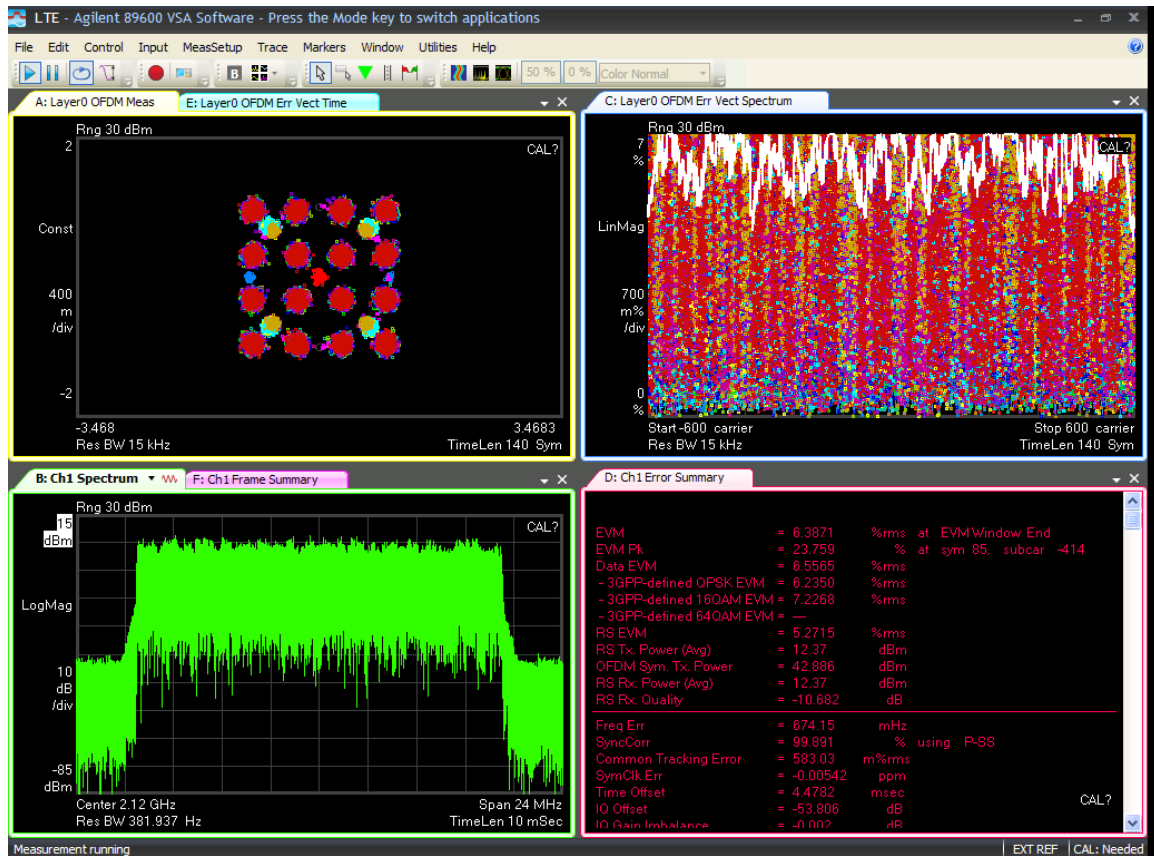
LTE-QPSK-Port 2



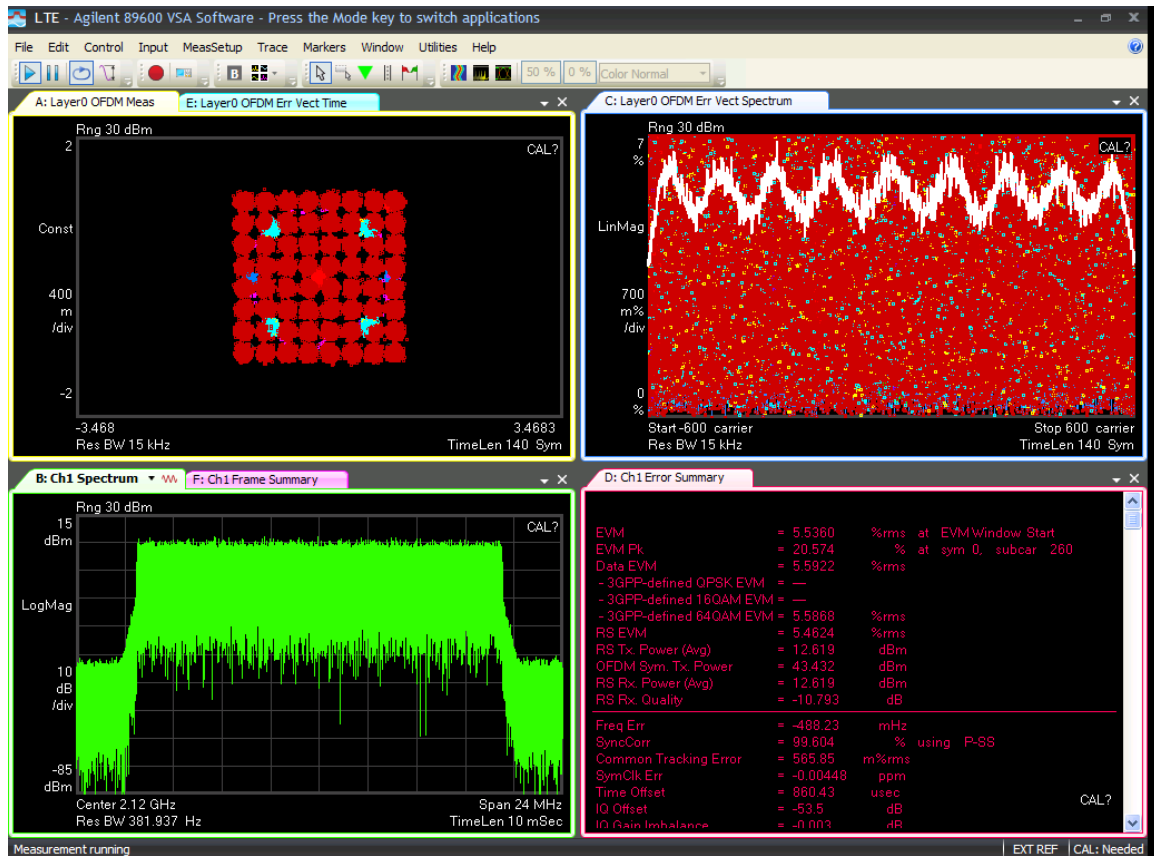
LTE-16QAM-Port 1



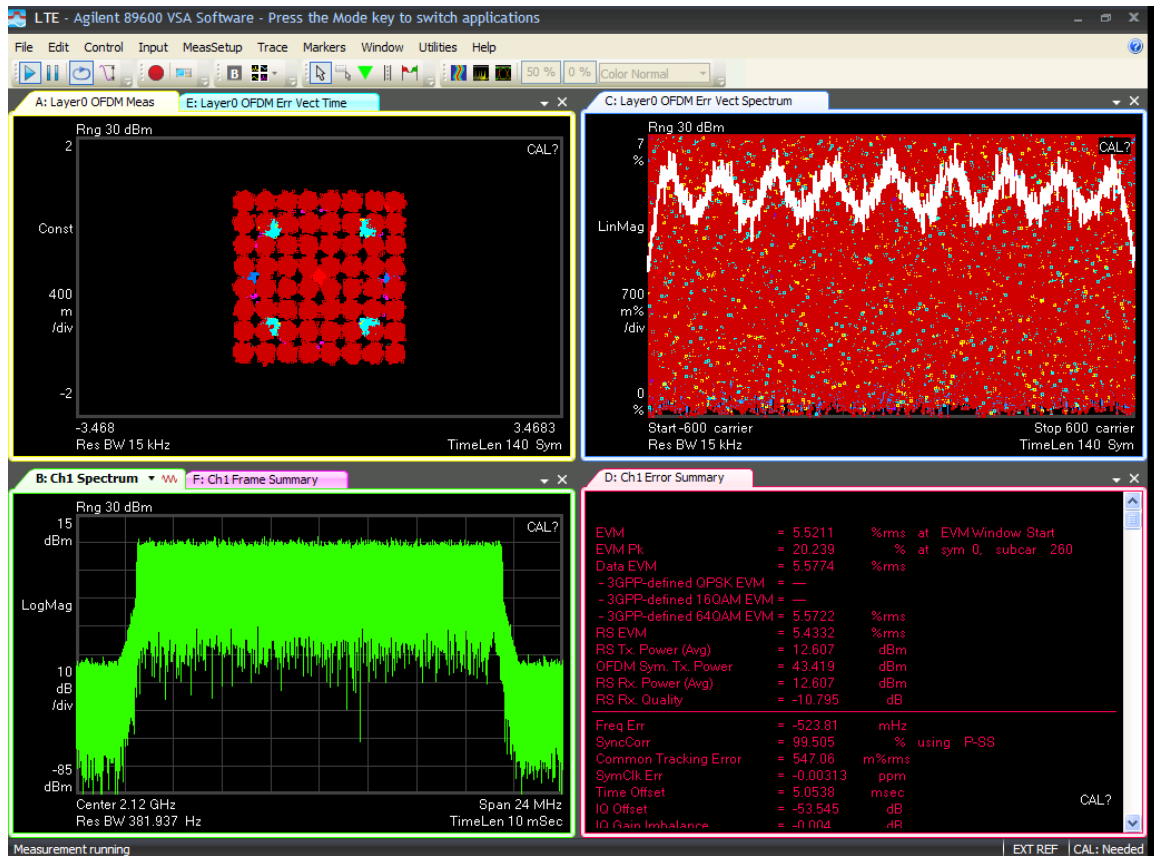
LTE-16QAM-Port 2



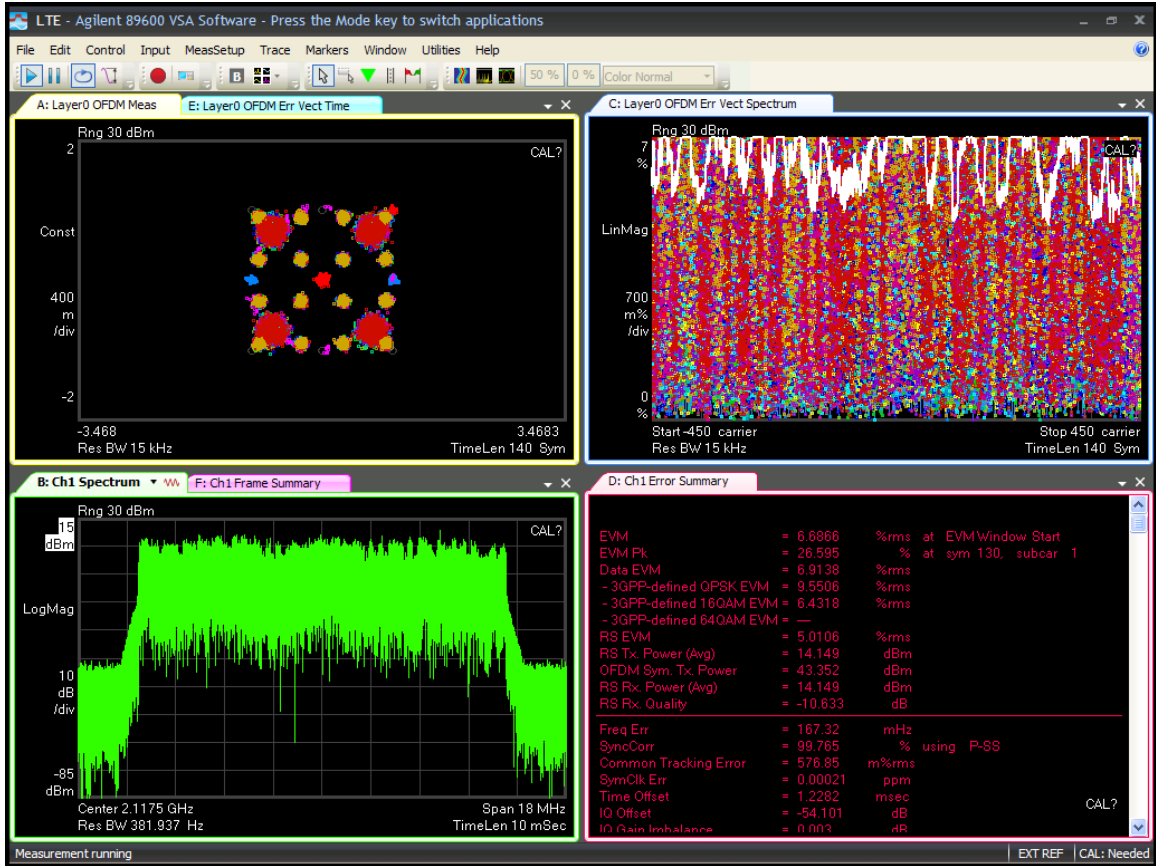
LTE-64QAM-Port 1



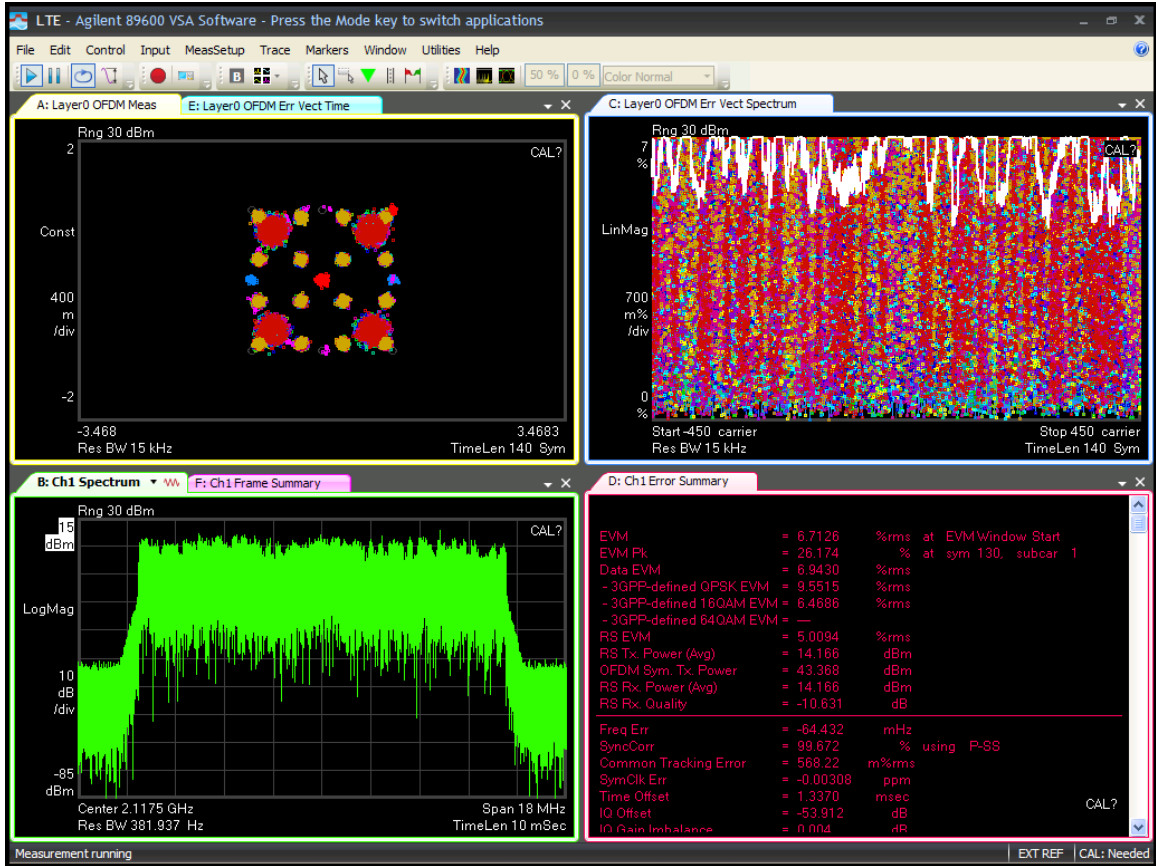
LTE-64QAM-Port 2



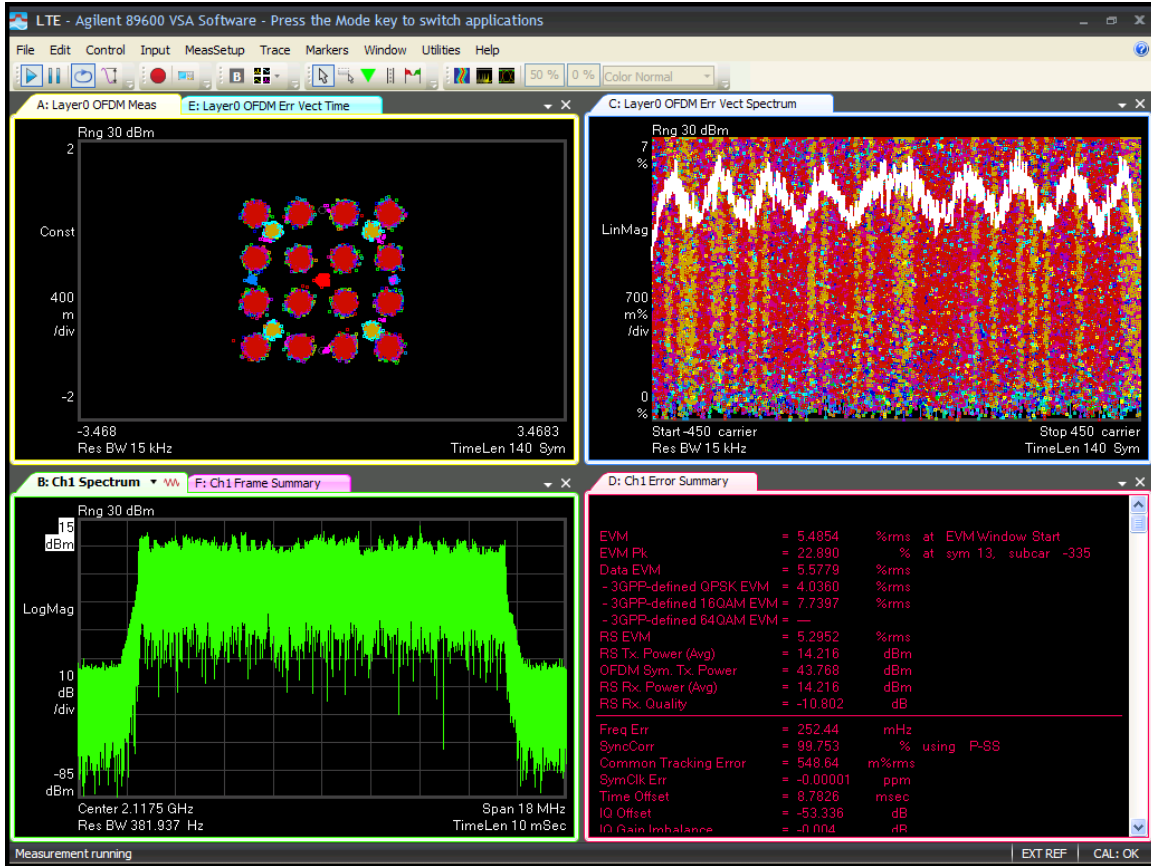
Configuration2:
LTE-QPSK-Port 1



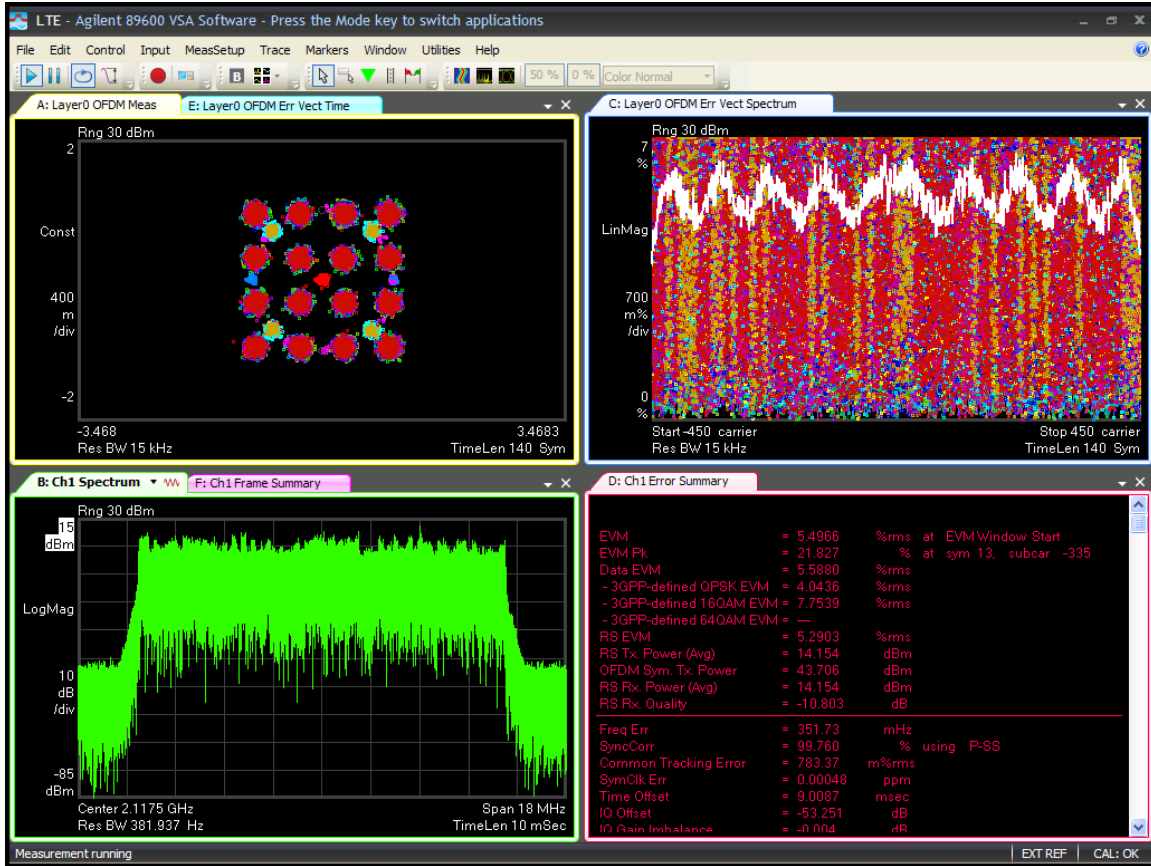
LTE-QPSK-Port 2



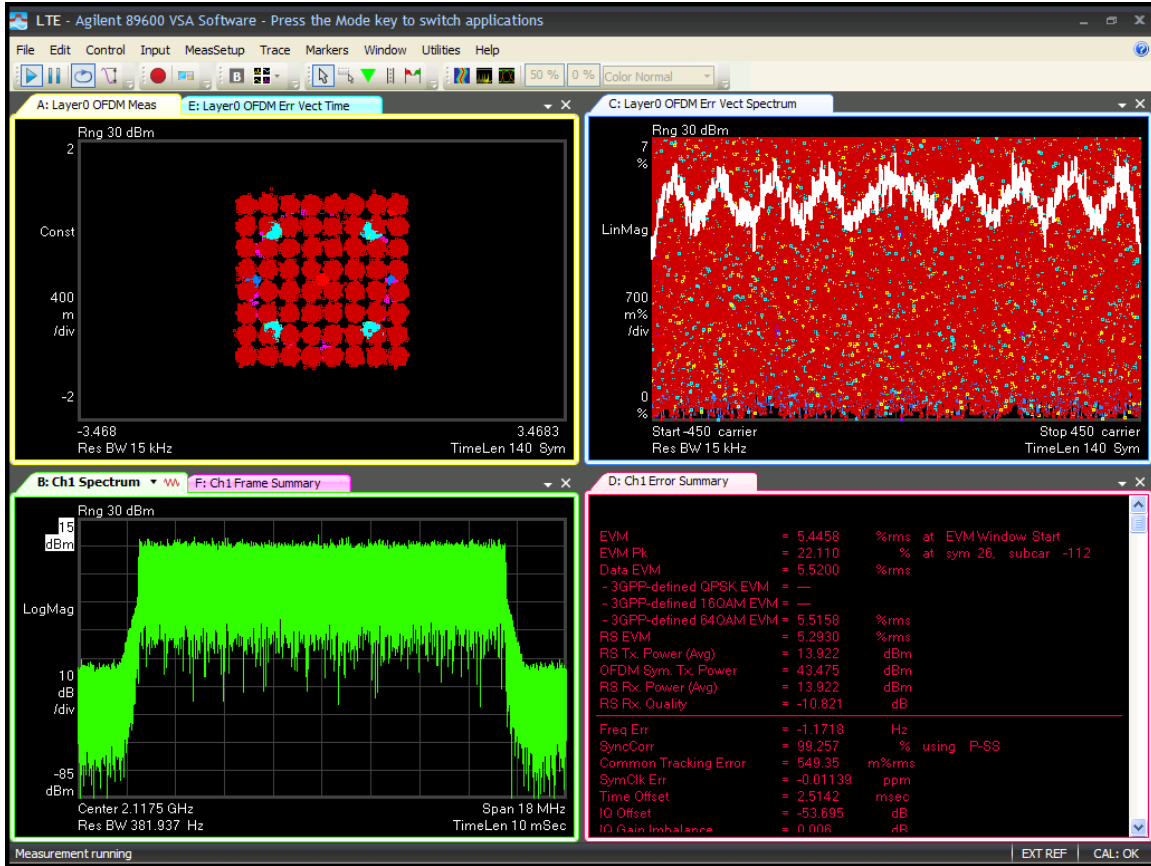
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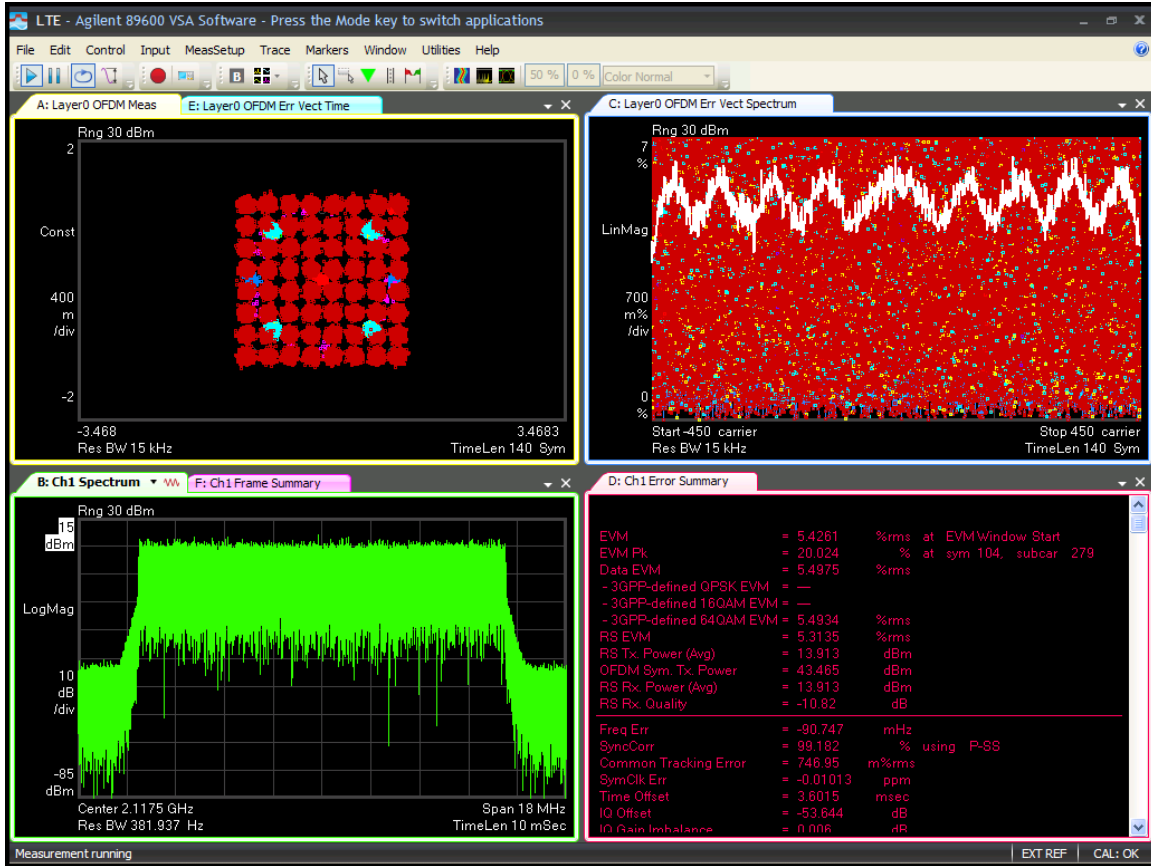
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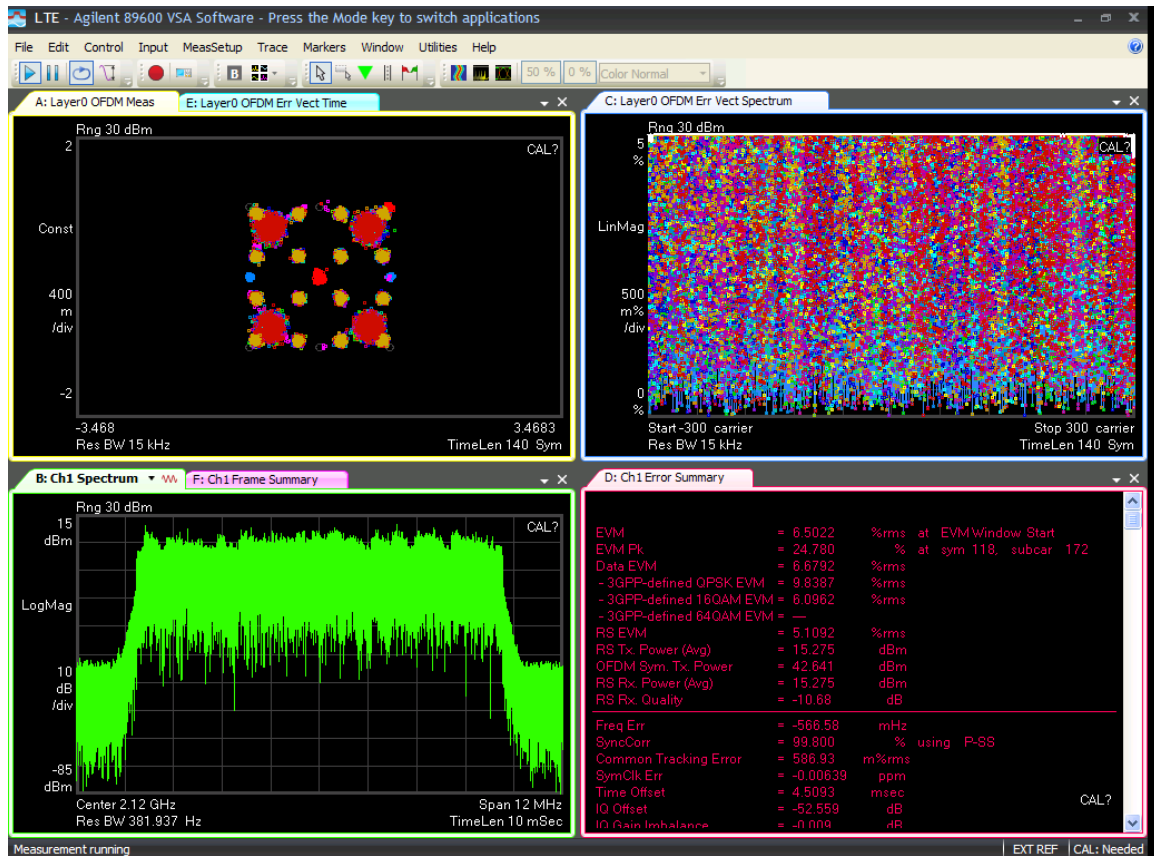
LTE-64QAM-Port 1



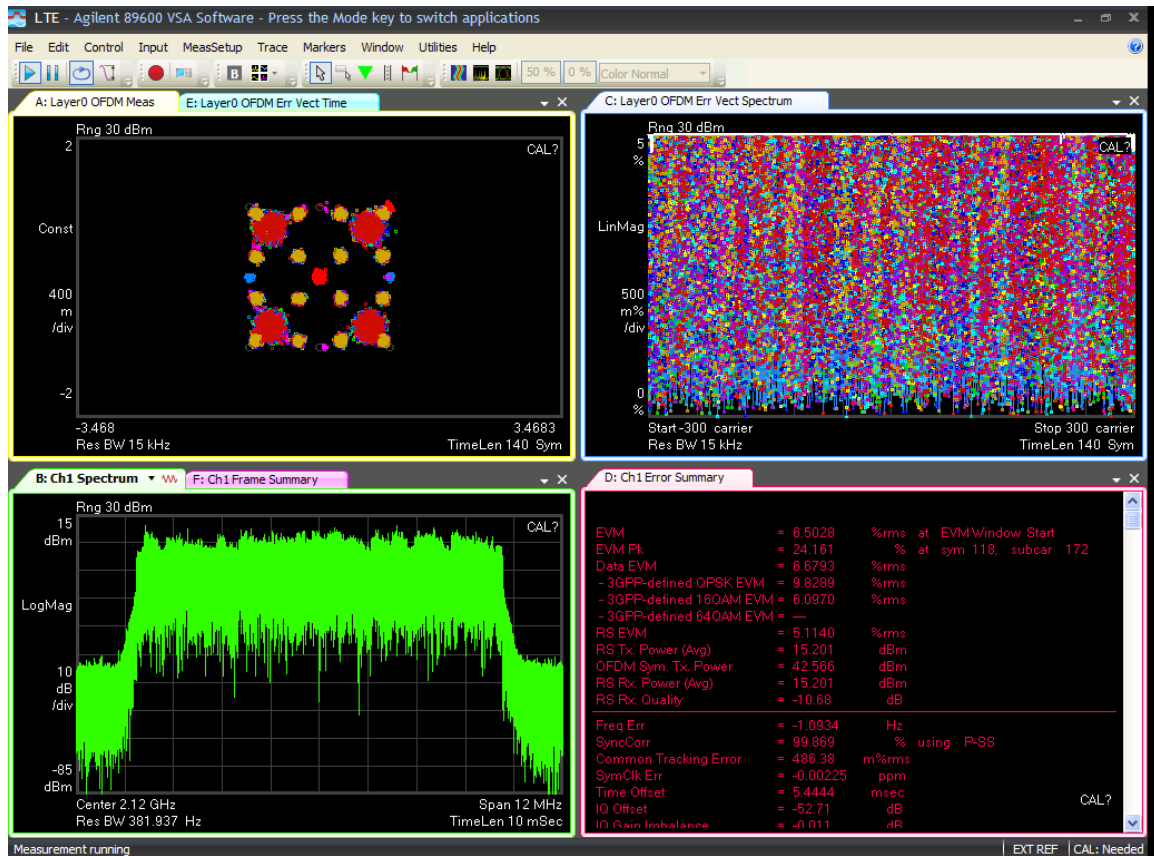
LTE-64QAM-Port 2



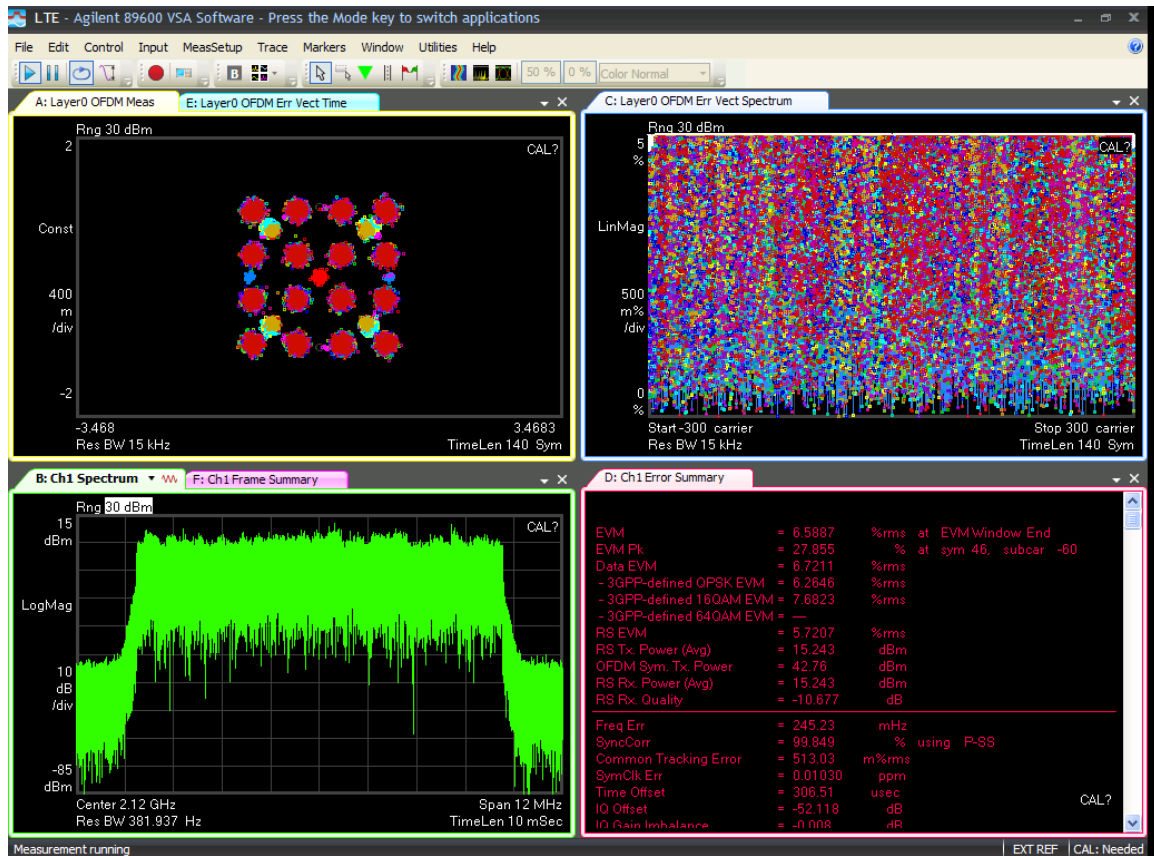
Configuration3:
LTE-QPSK-Port 1



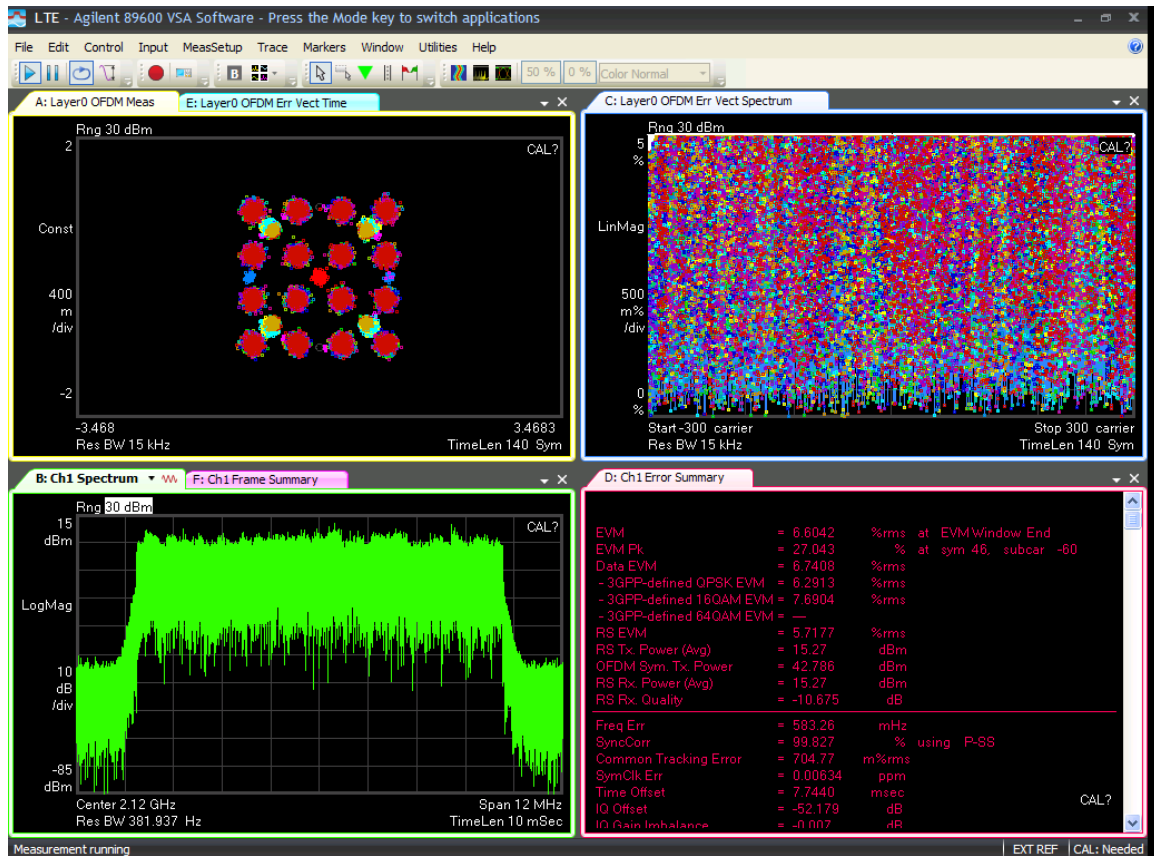
LTE-QPSK-Port 2



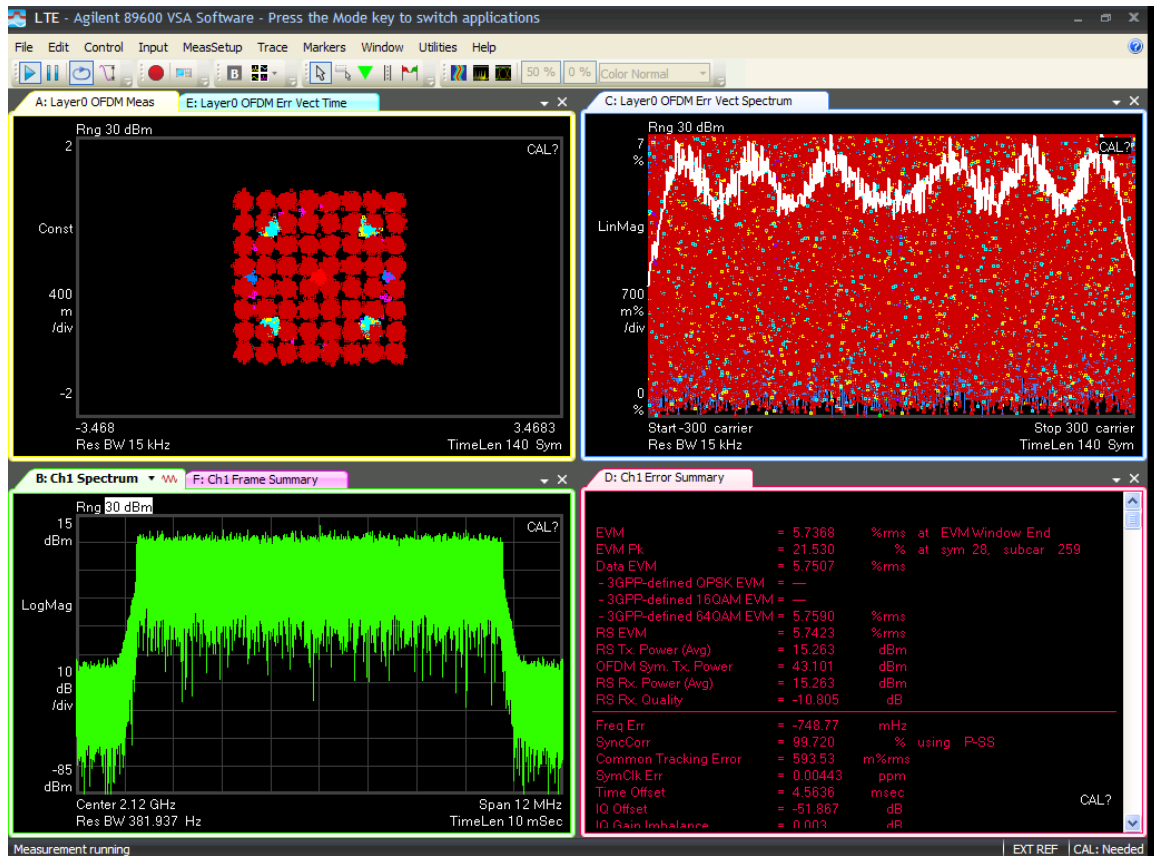
LTE-16QAM-Port 1



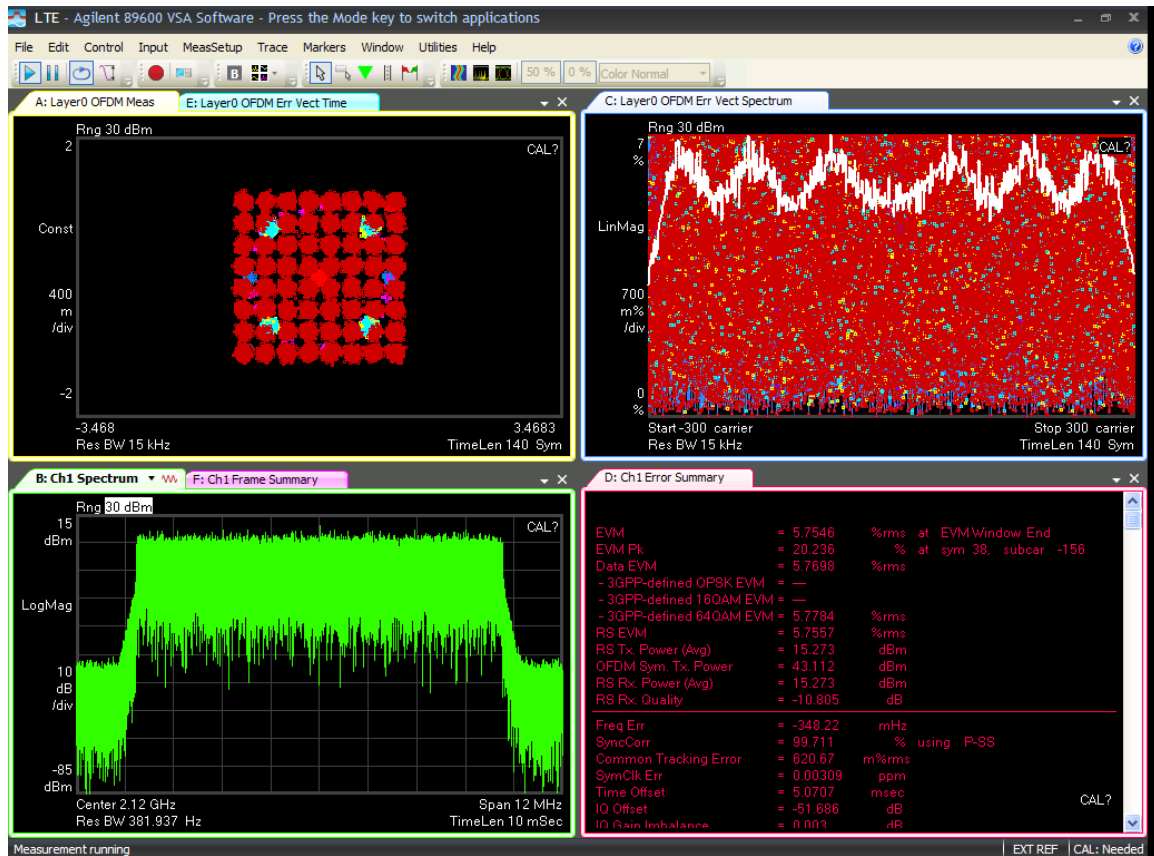
LTE-16QAM-Port 2



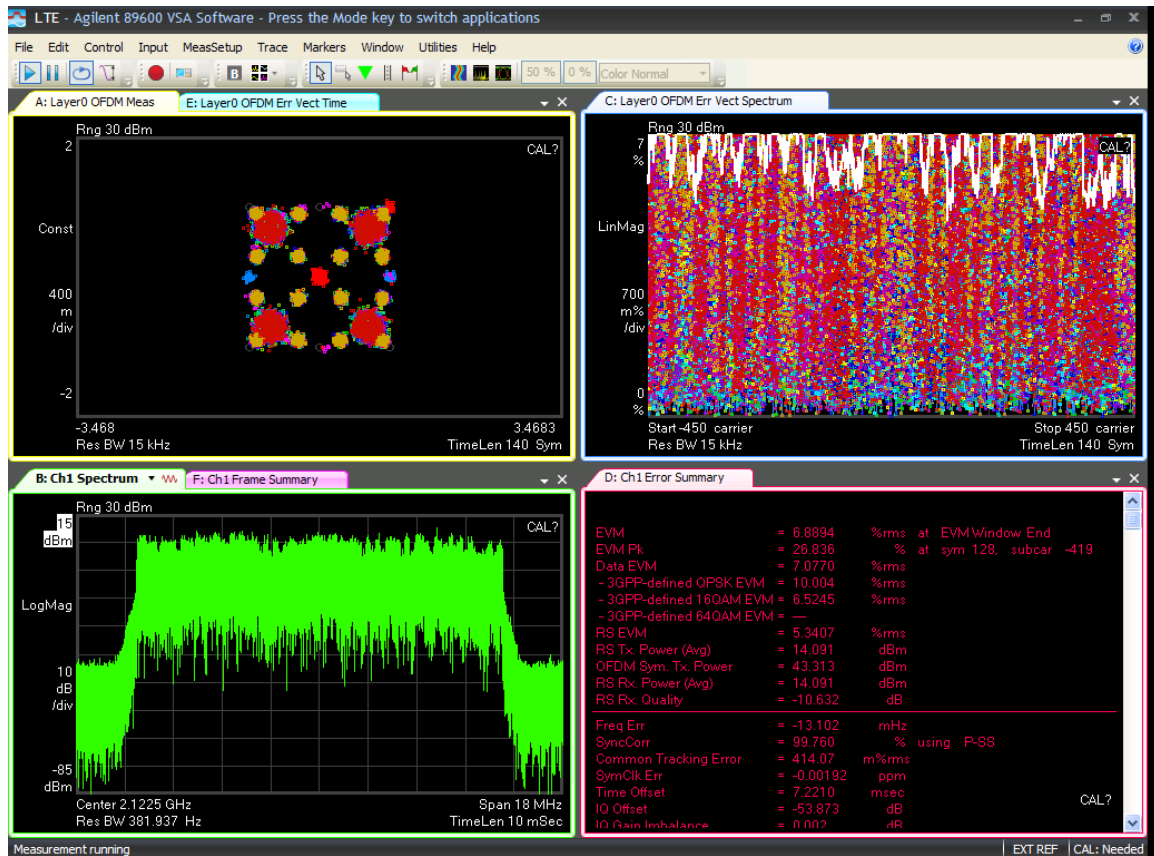
LTE-64QAM-Port 1



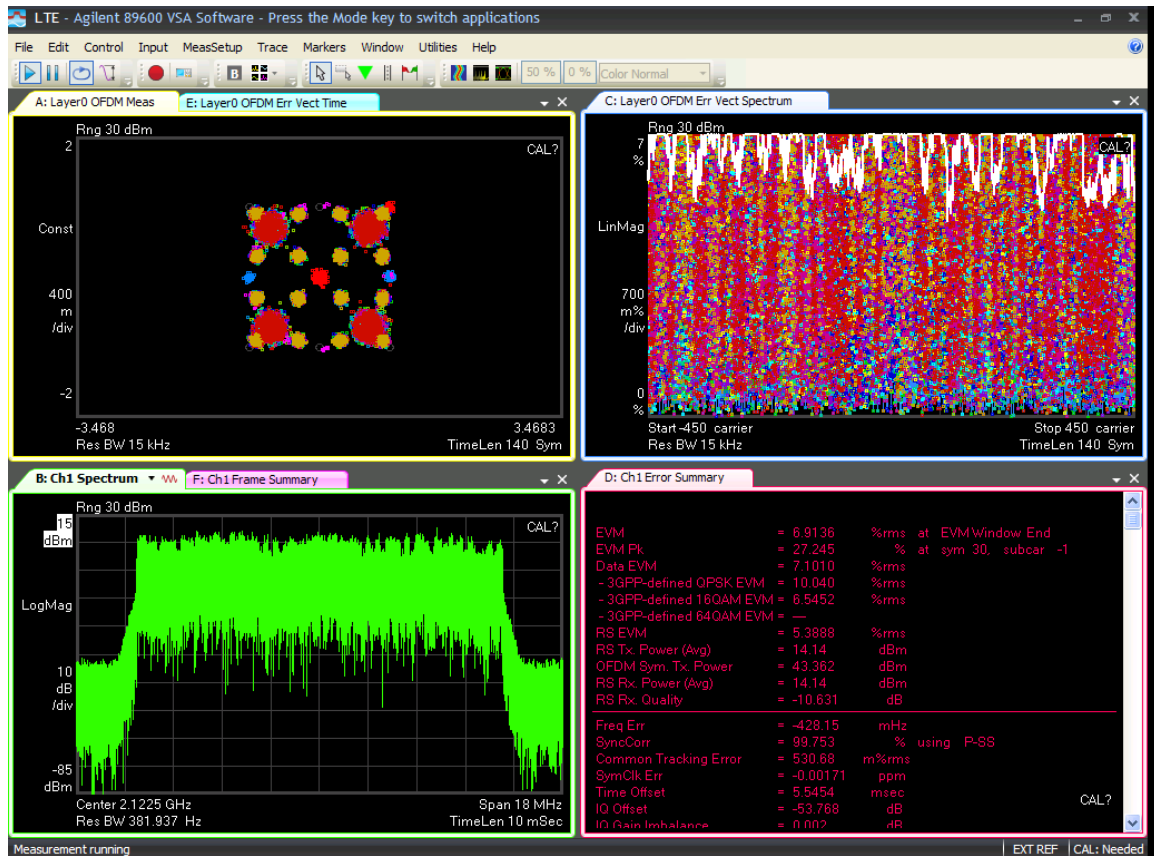
LTE-64QAM-Port 2



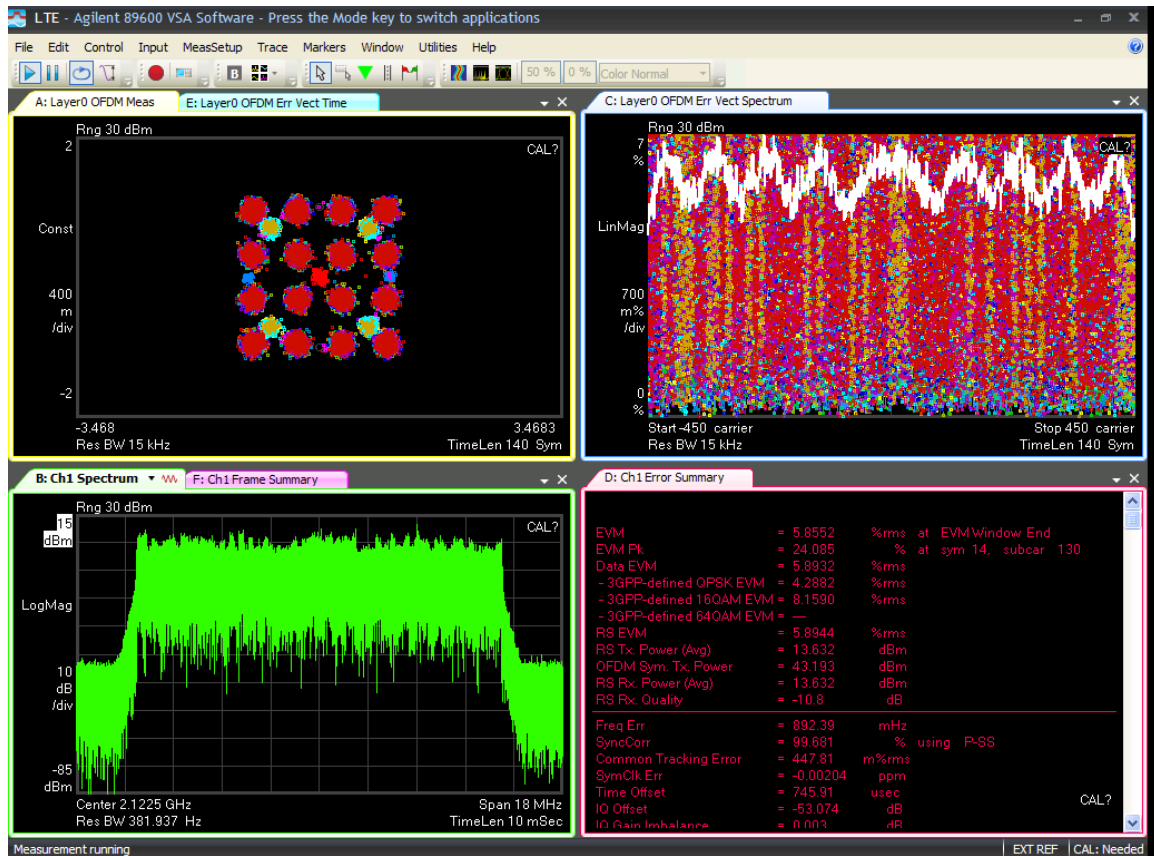
Configuration4:
LTE-QPSK-Port 1



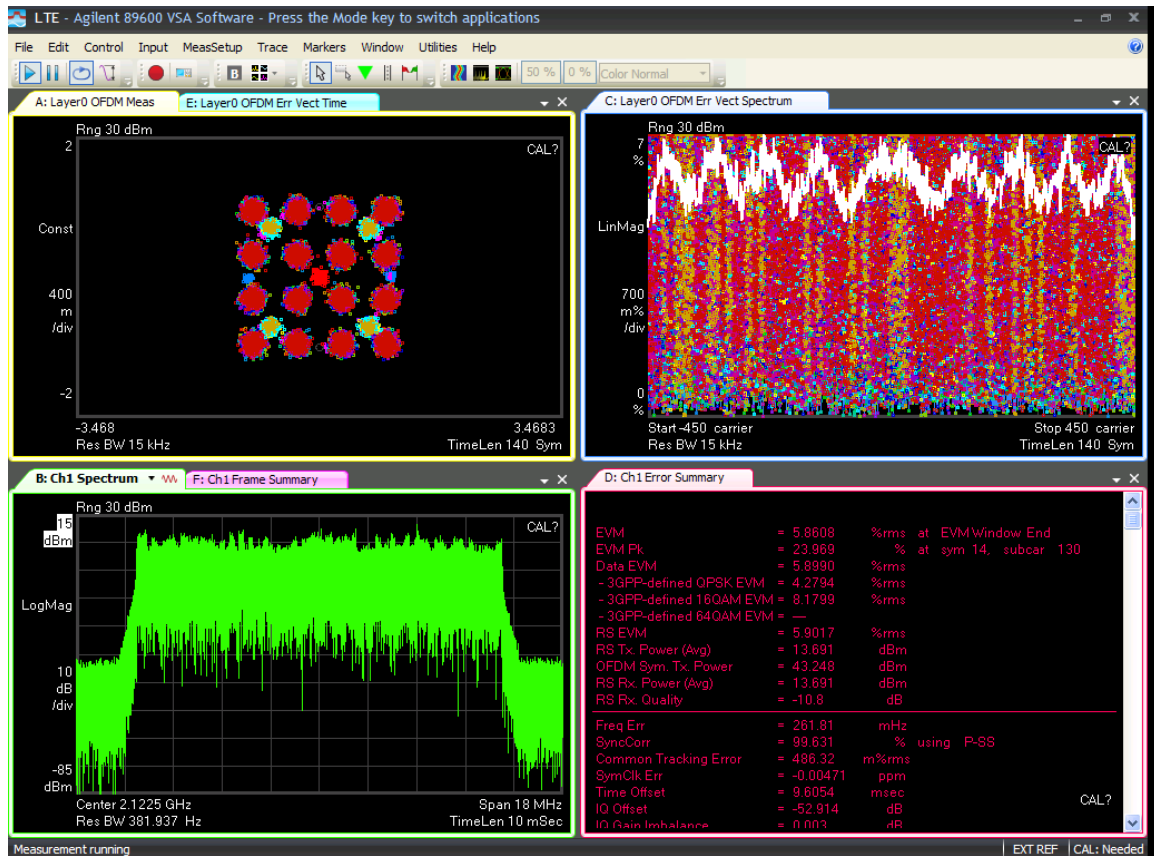
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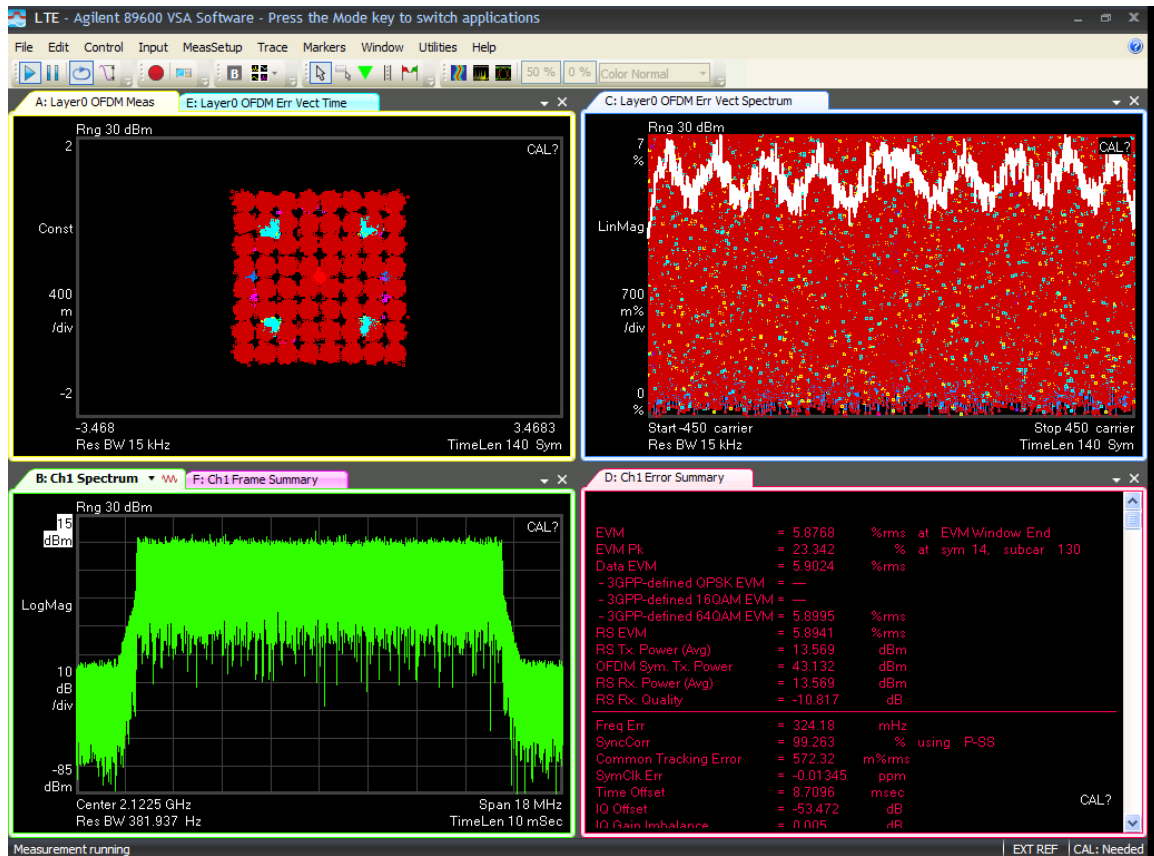
LTE-16QAM-Port 1



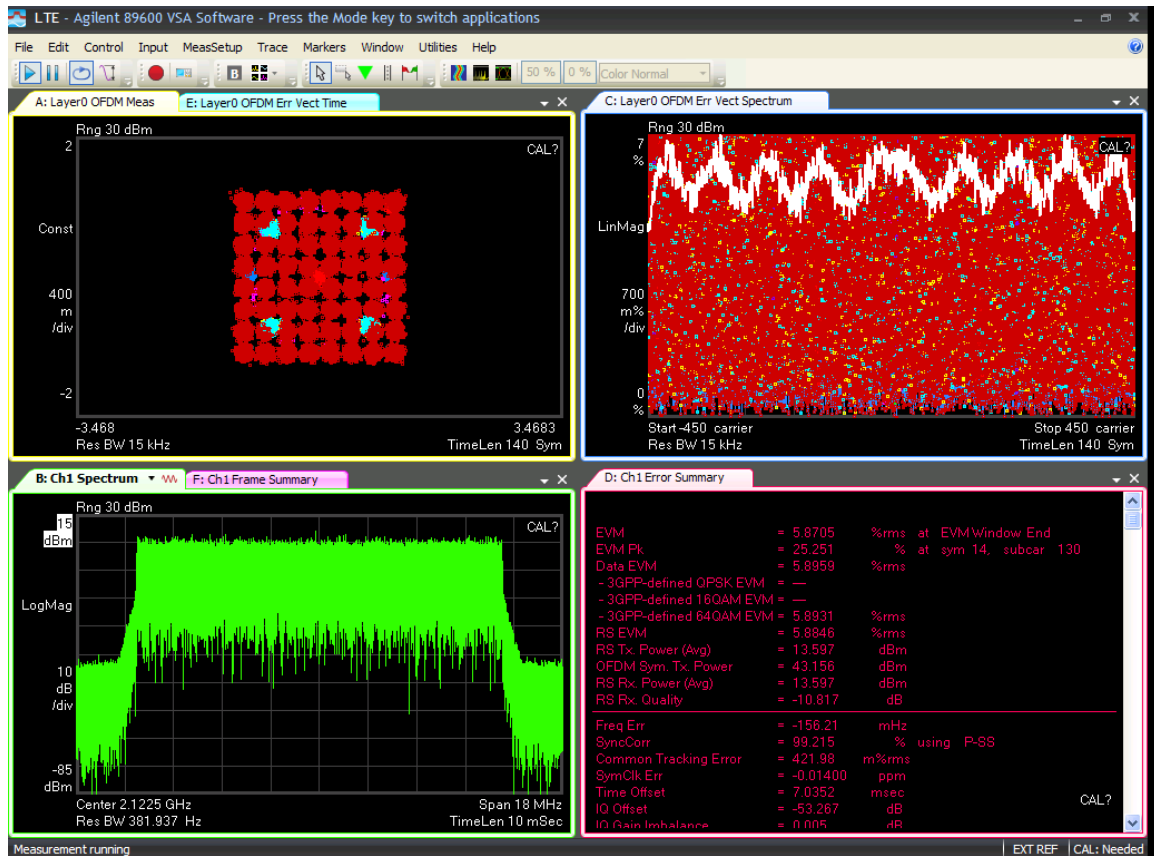
LTE-16QAM-Port 2



LTE-64QAM-Port 1



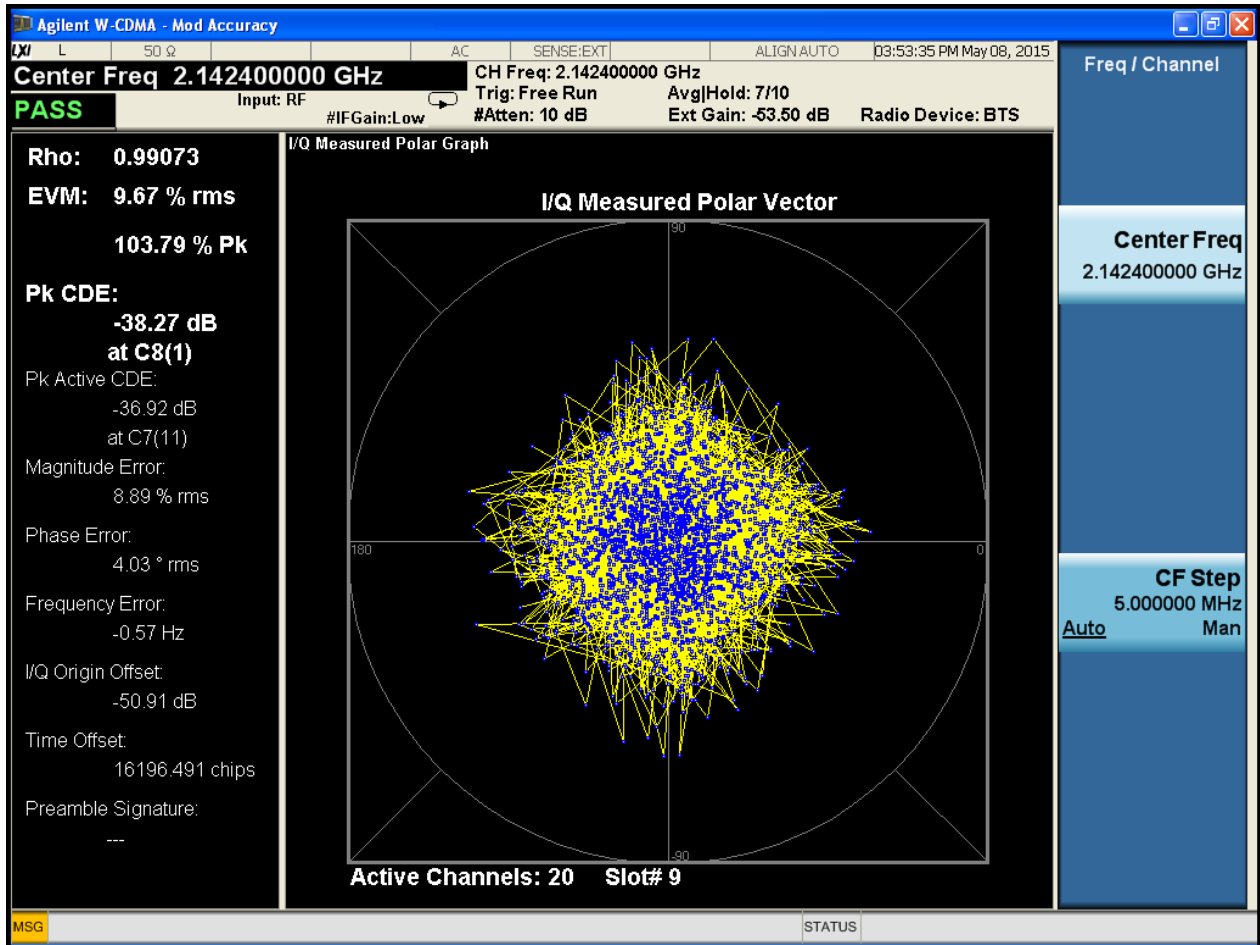
LTE-64QAM-Port 2



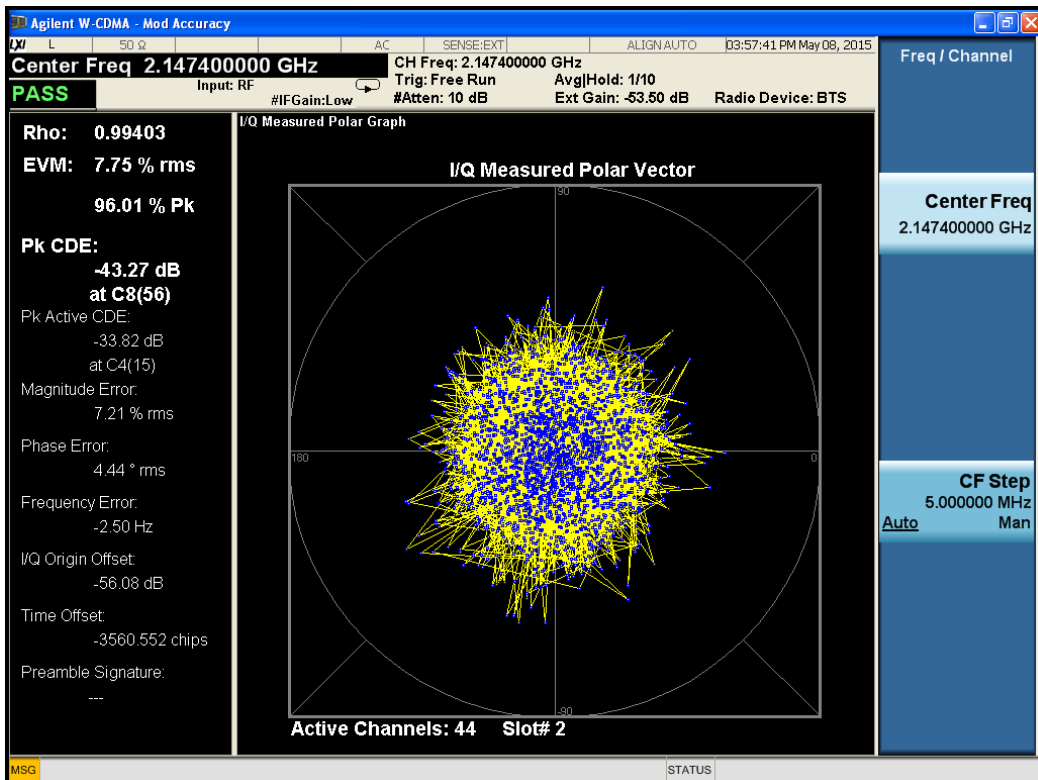
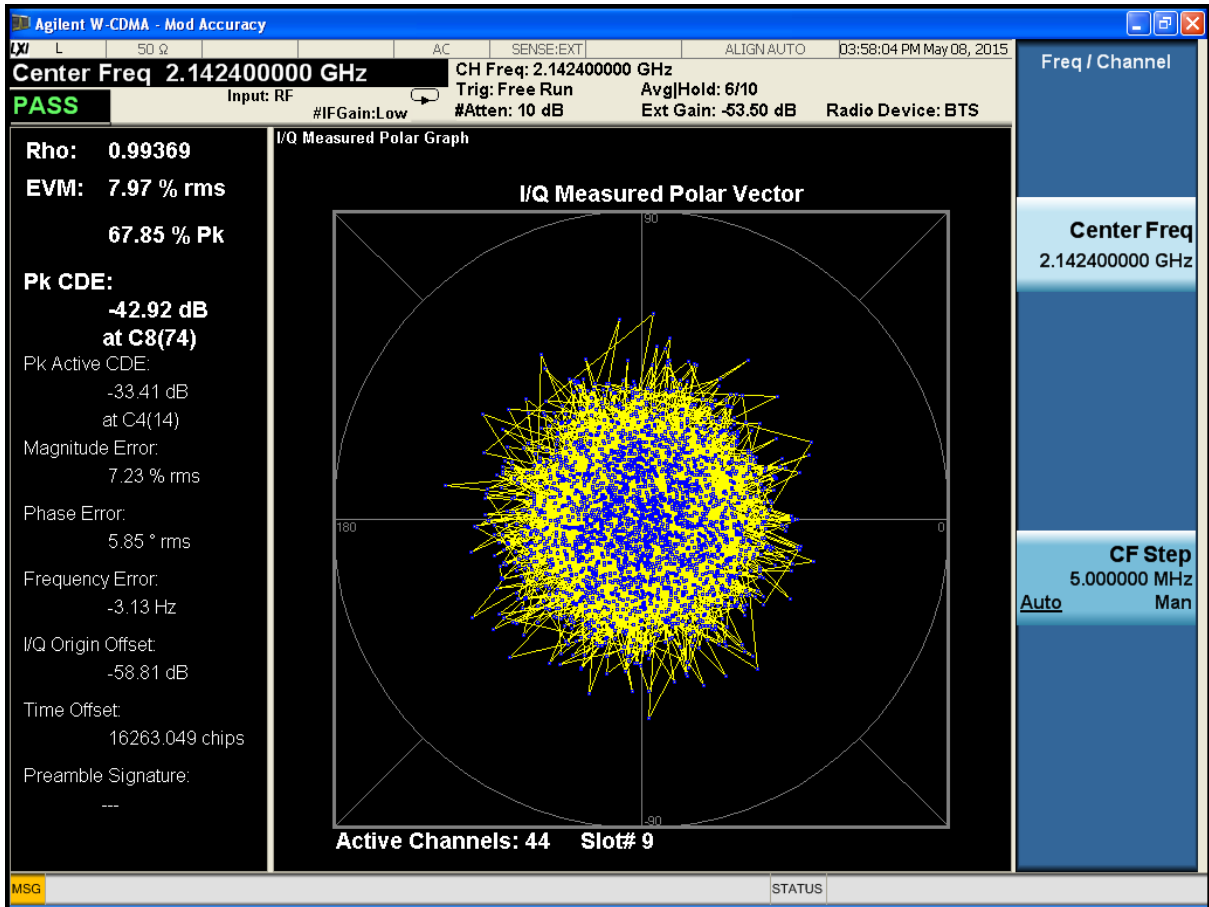
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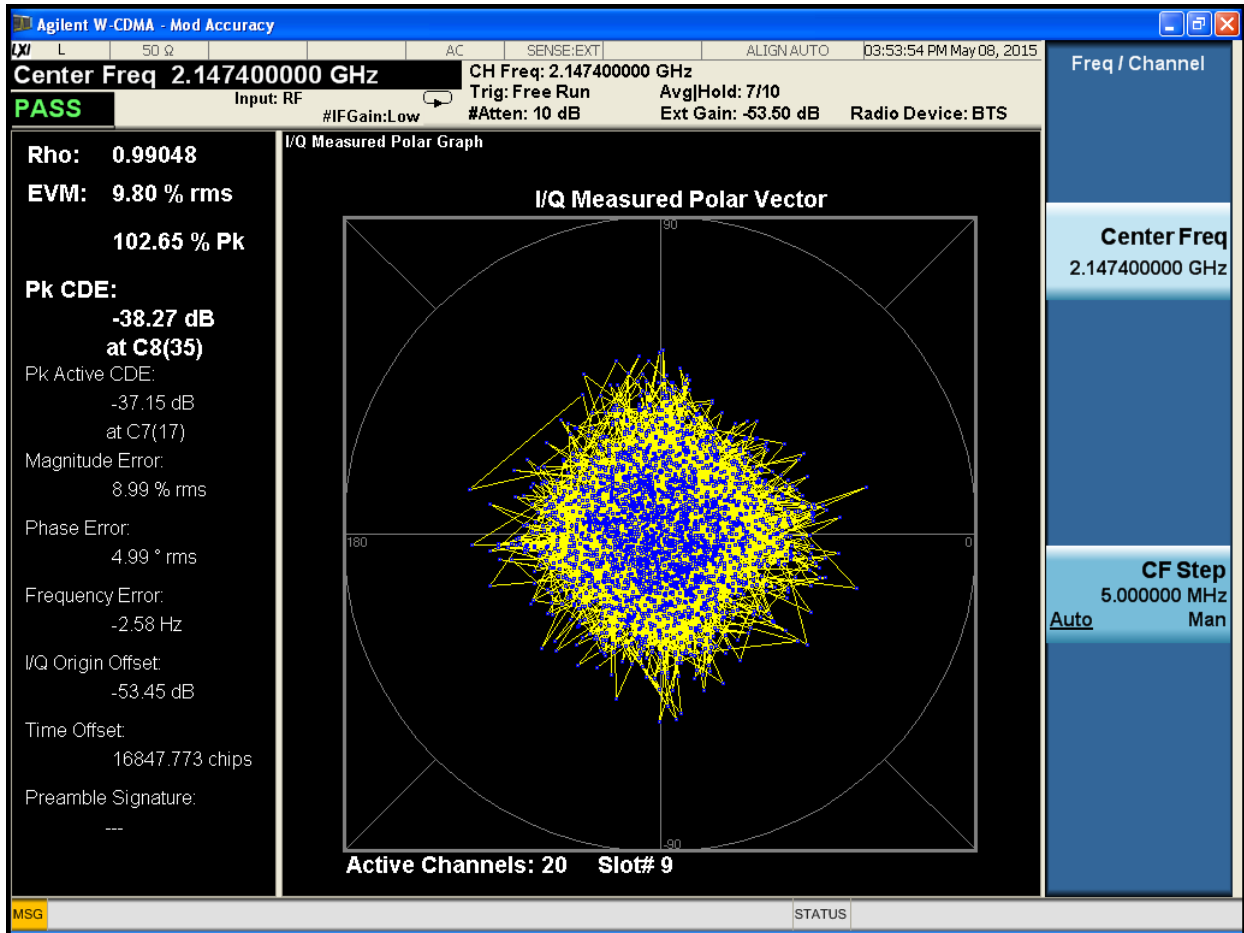
configuration	carrier	Frequency (MHz)	Modulation Characteristics		
			QPSK	16QAM	64QAM
1	1	2142.4	9.67	7.97	8.36
	2	2147.4	9.80	7.75	8.28
2	1	2142.4	9.01	8.17	7.87
	2	2147.4	9.68	8.37	7.58
3	1	2147.4	10.03	8.44	7.97
	2	2152.4	8.67	7.66	8.13
4	1	2152.4	6.53	5.41	6.04

Configuration 1: QPSK

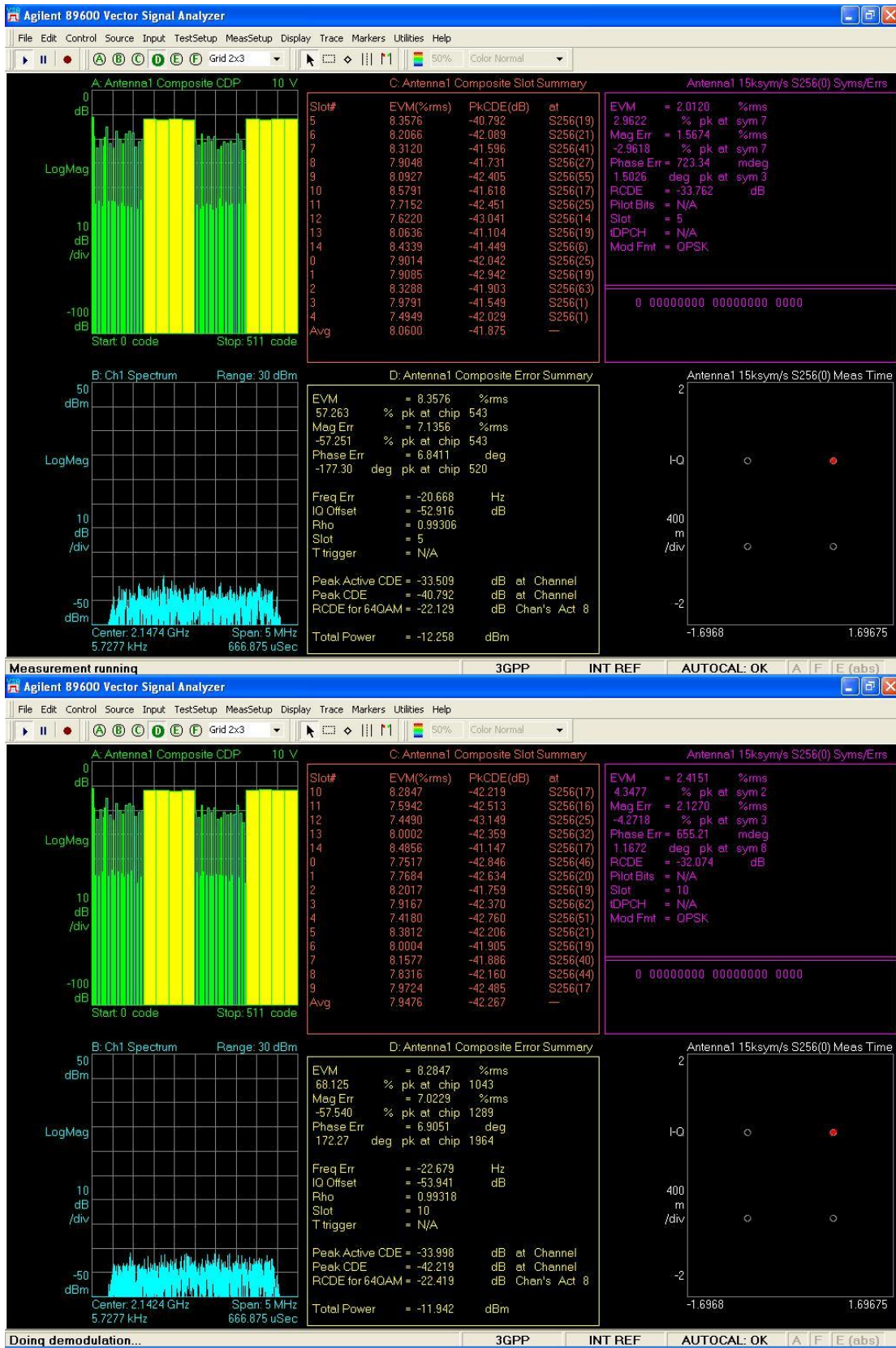


16QAM

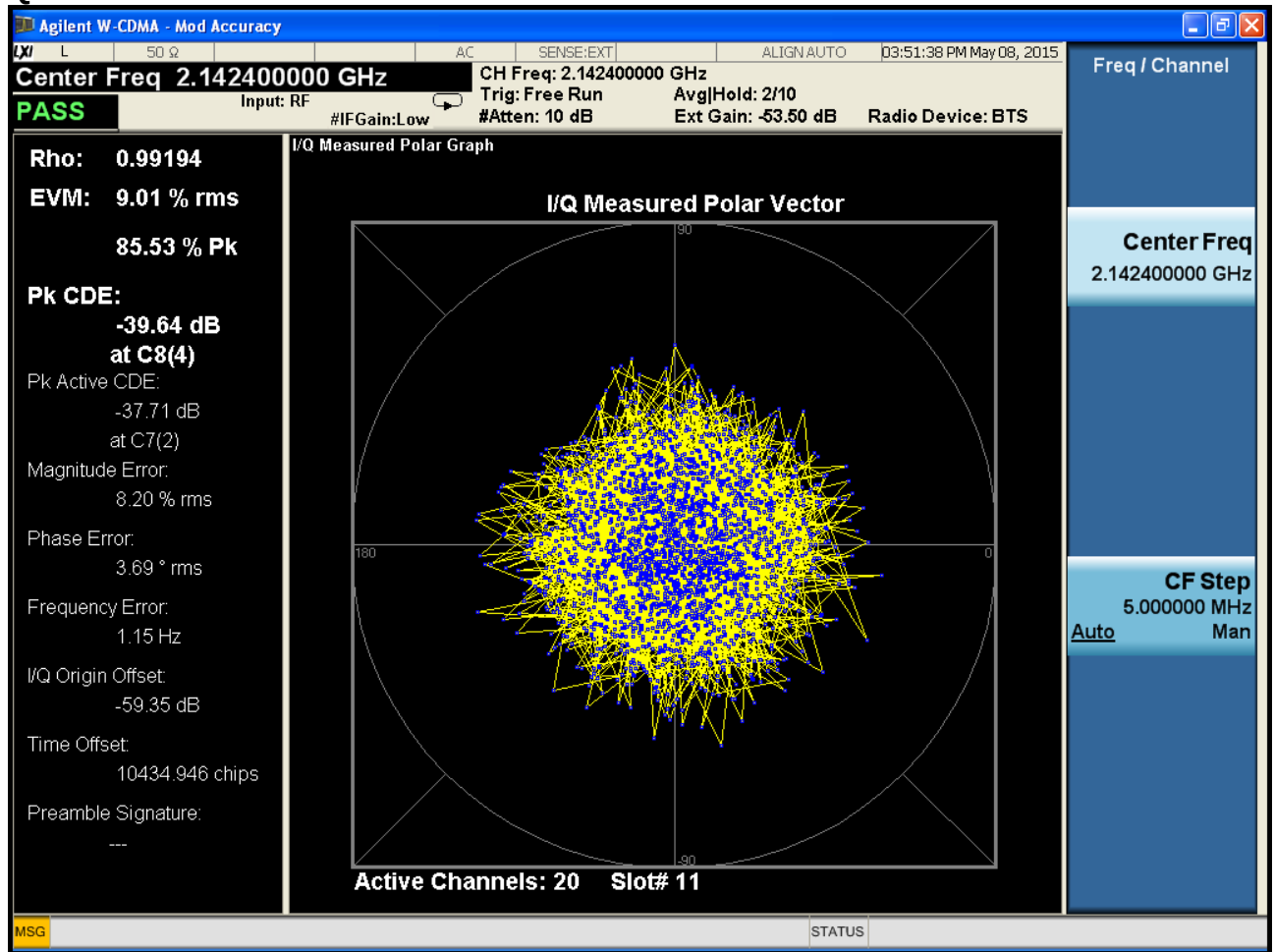


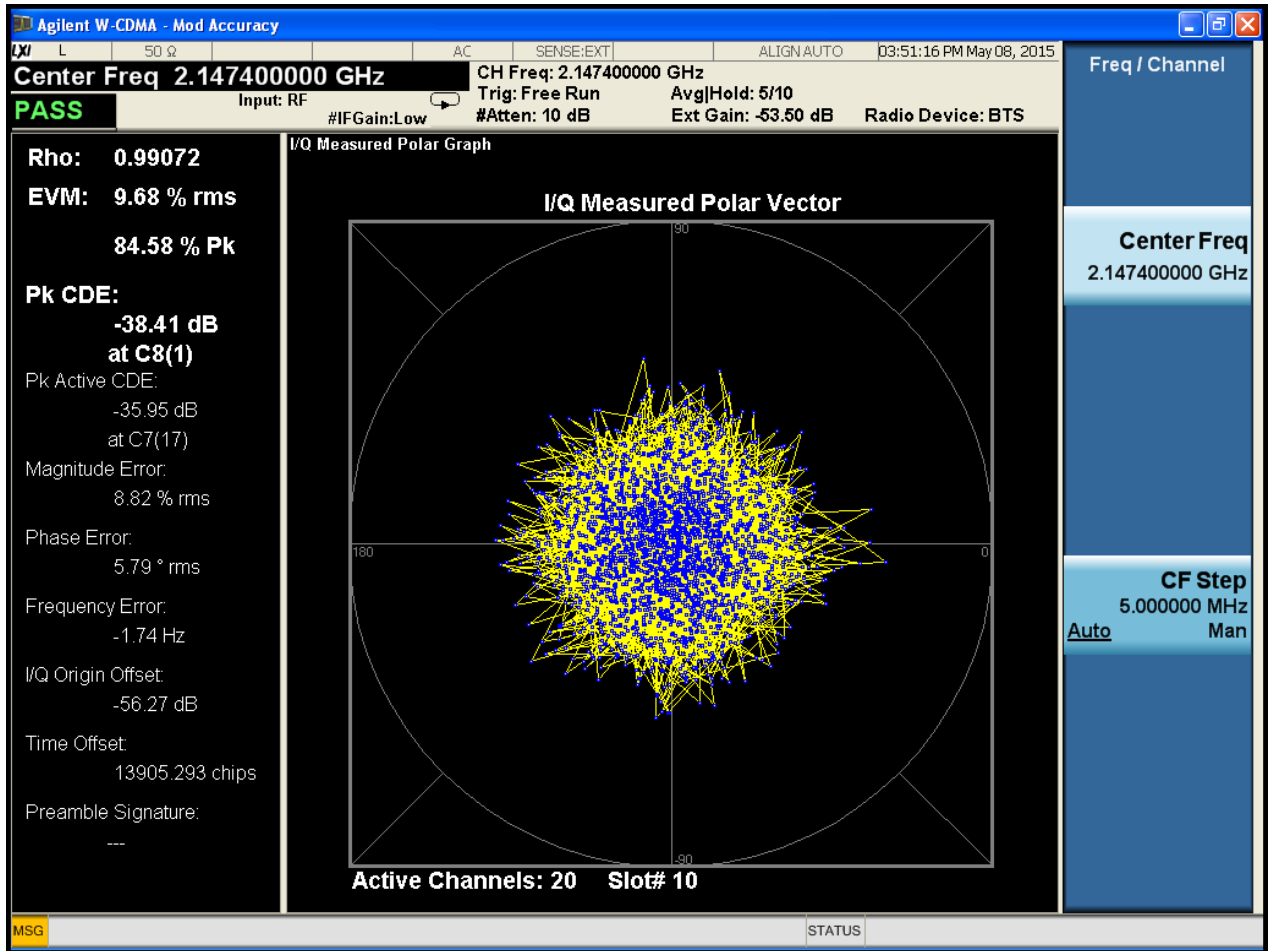


64QAM

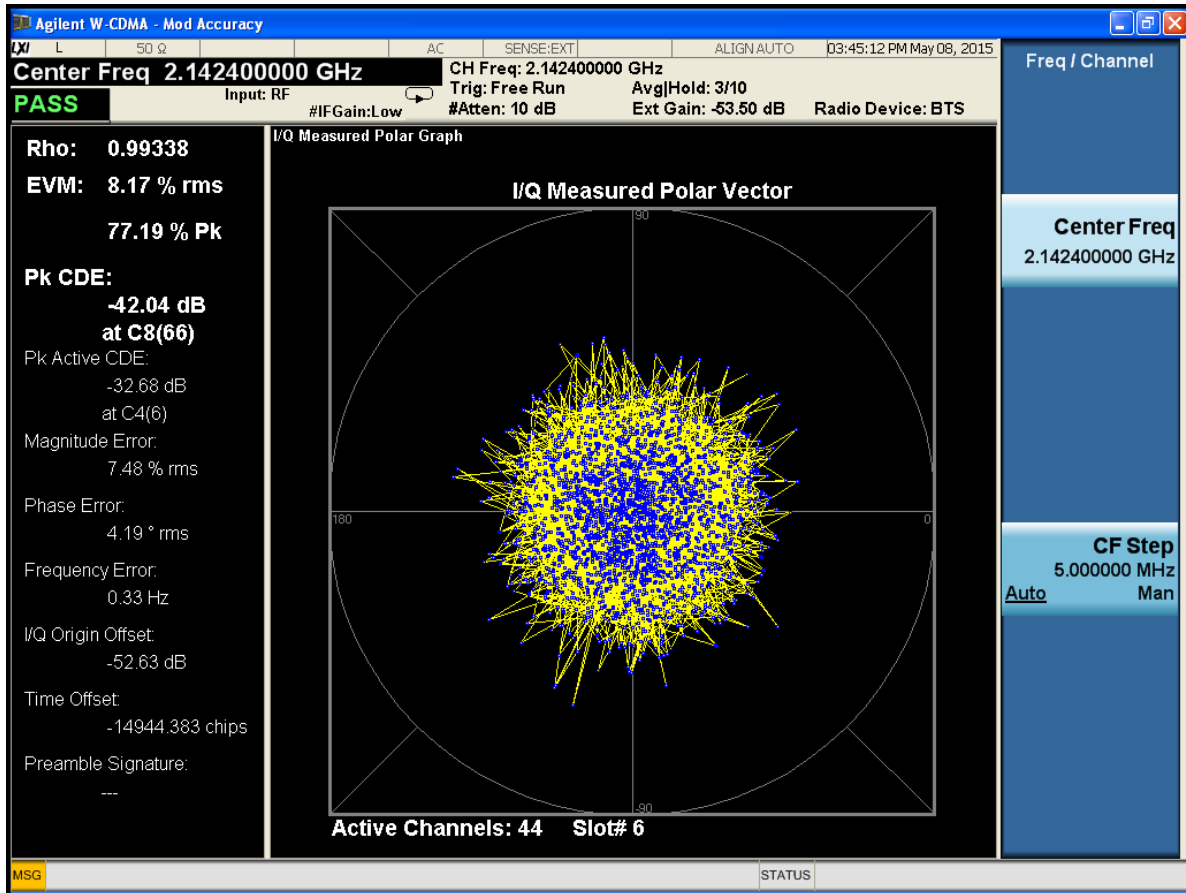


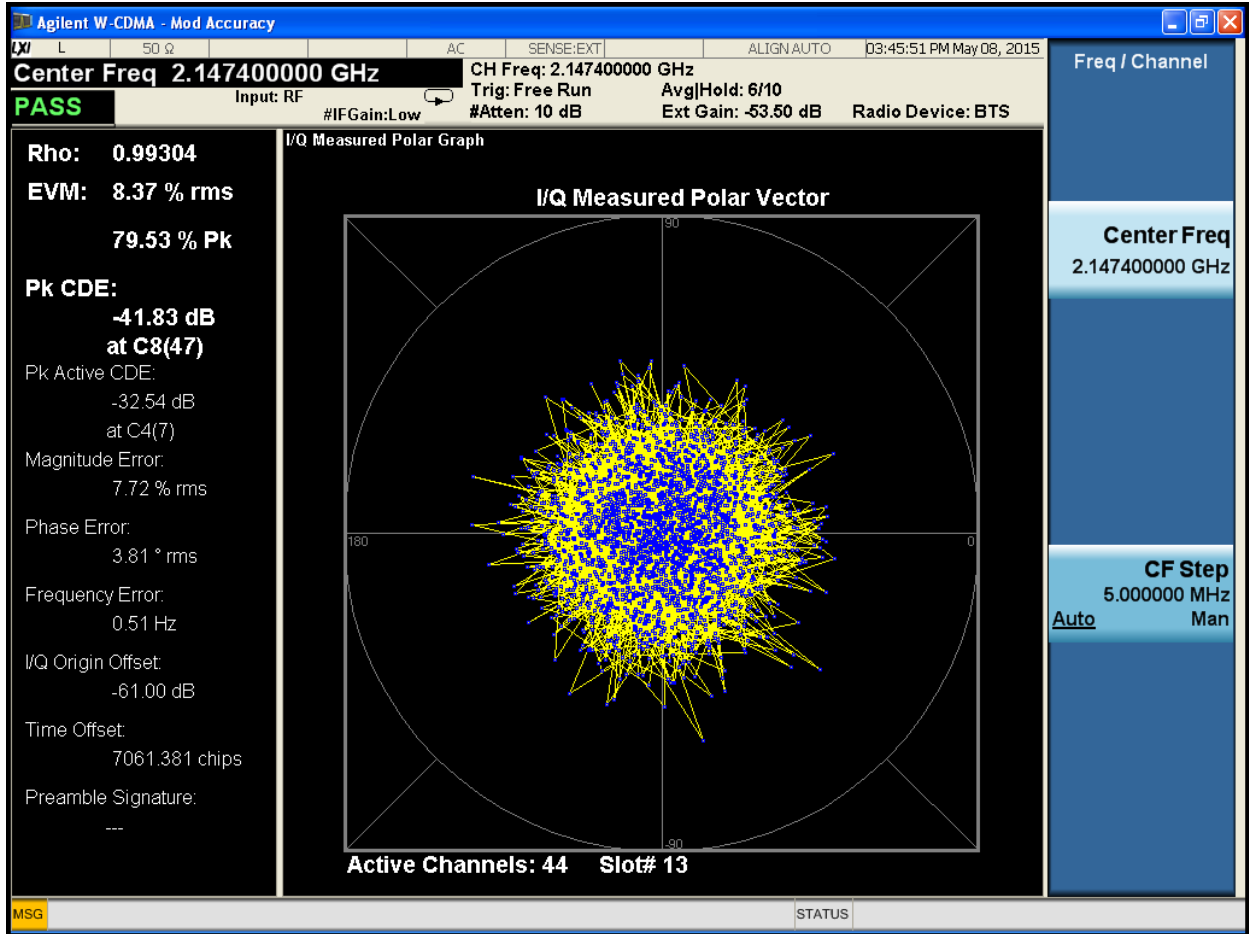
Configuration 2: QPSK



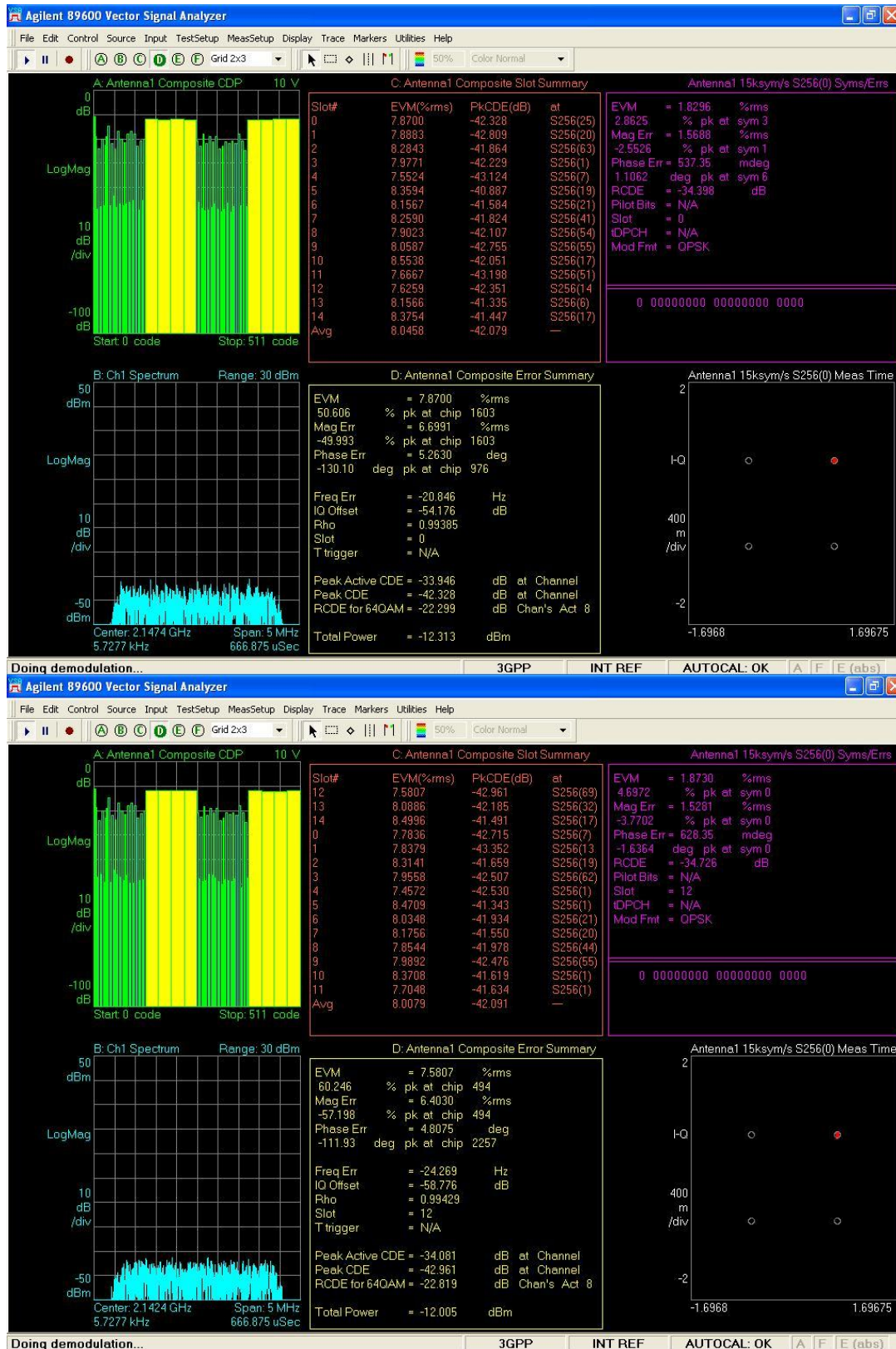


16QAM



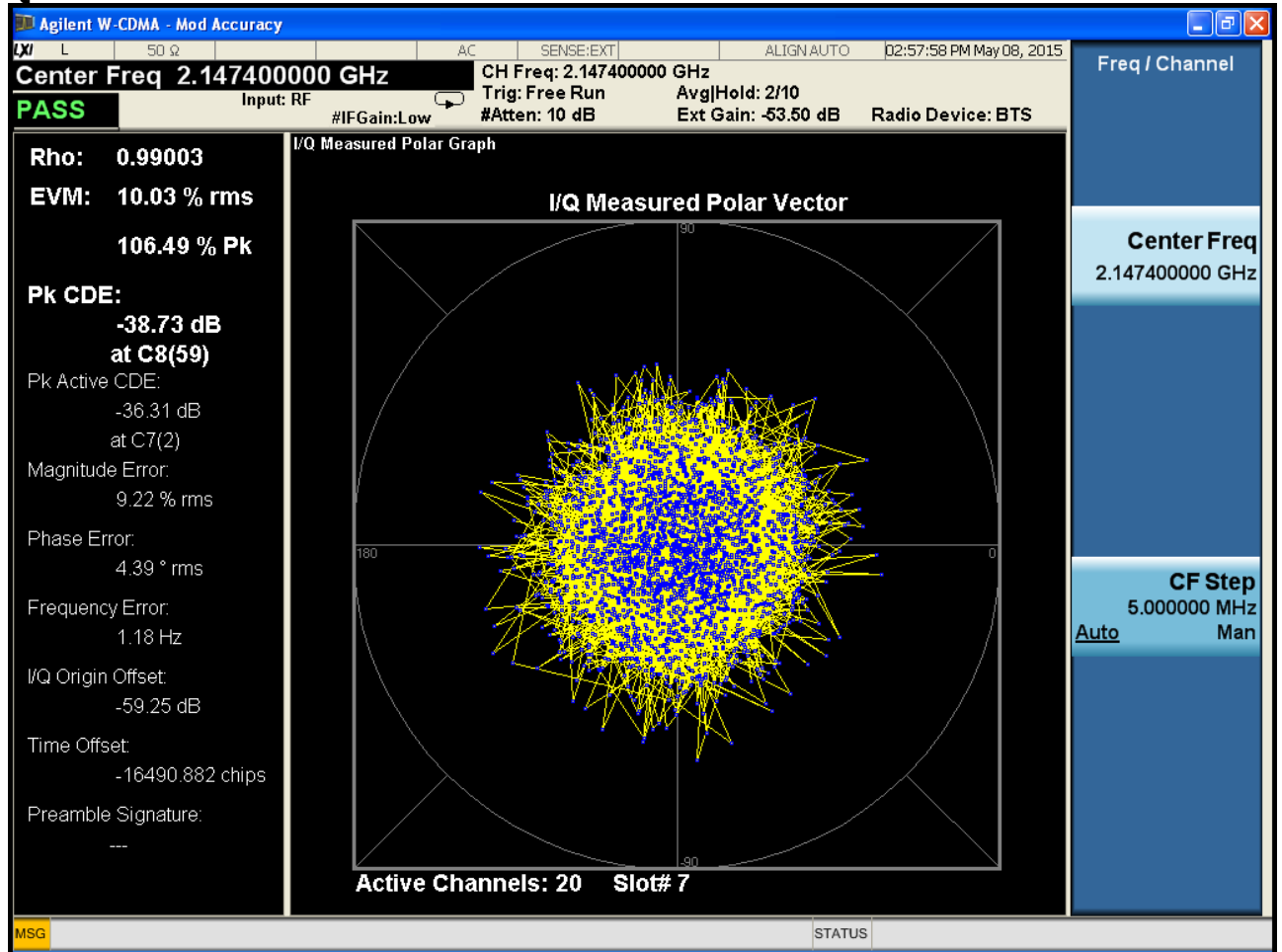


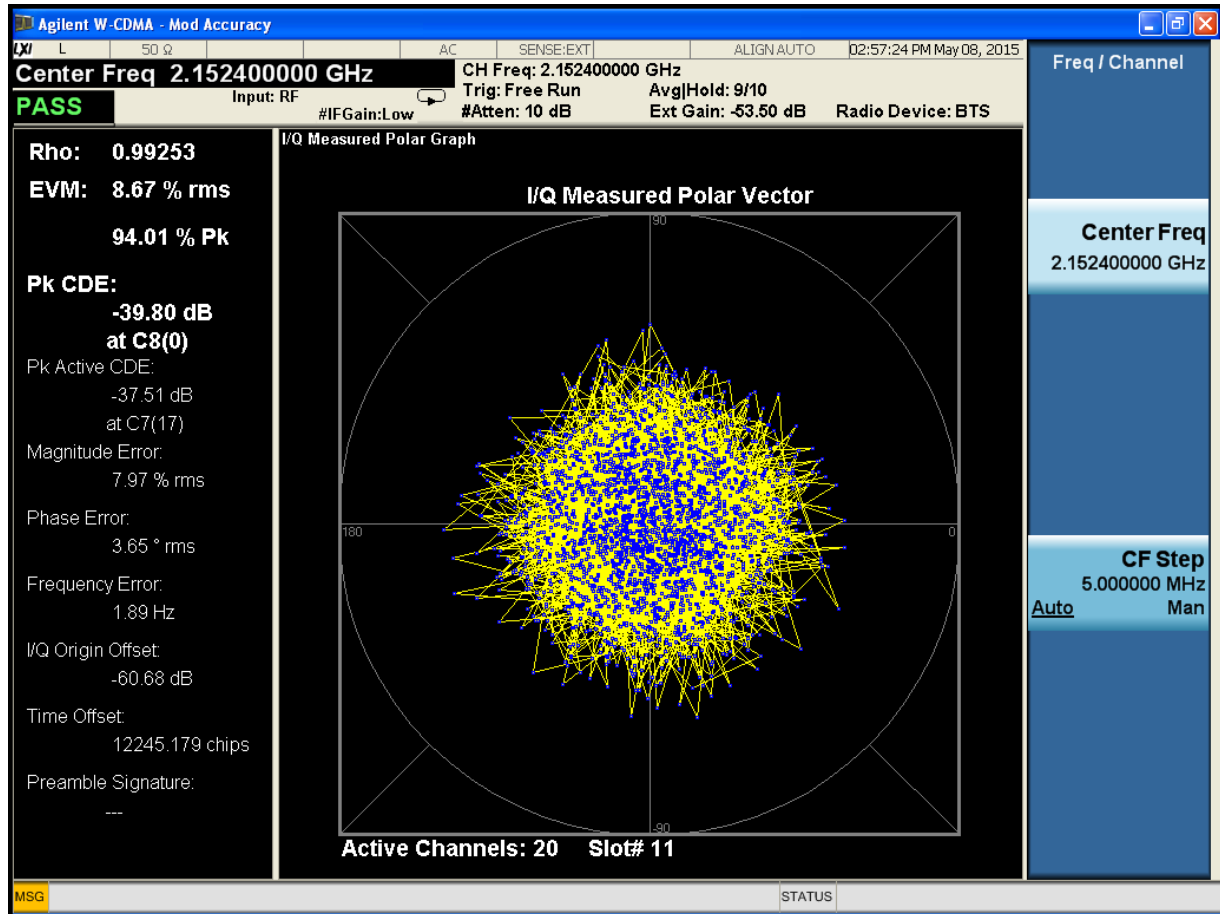
64QAM



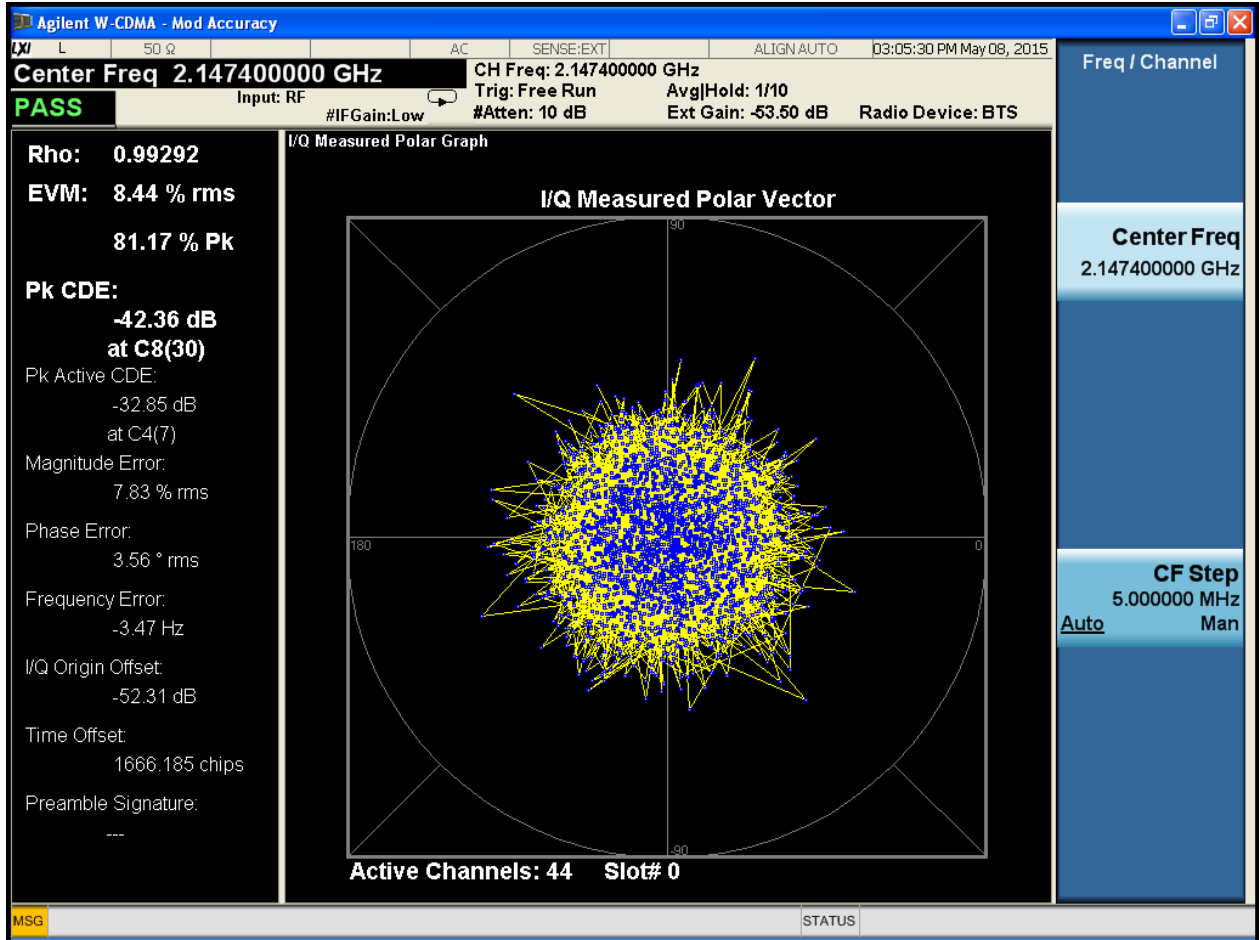
Configuration 3:

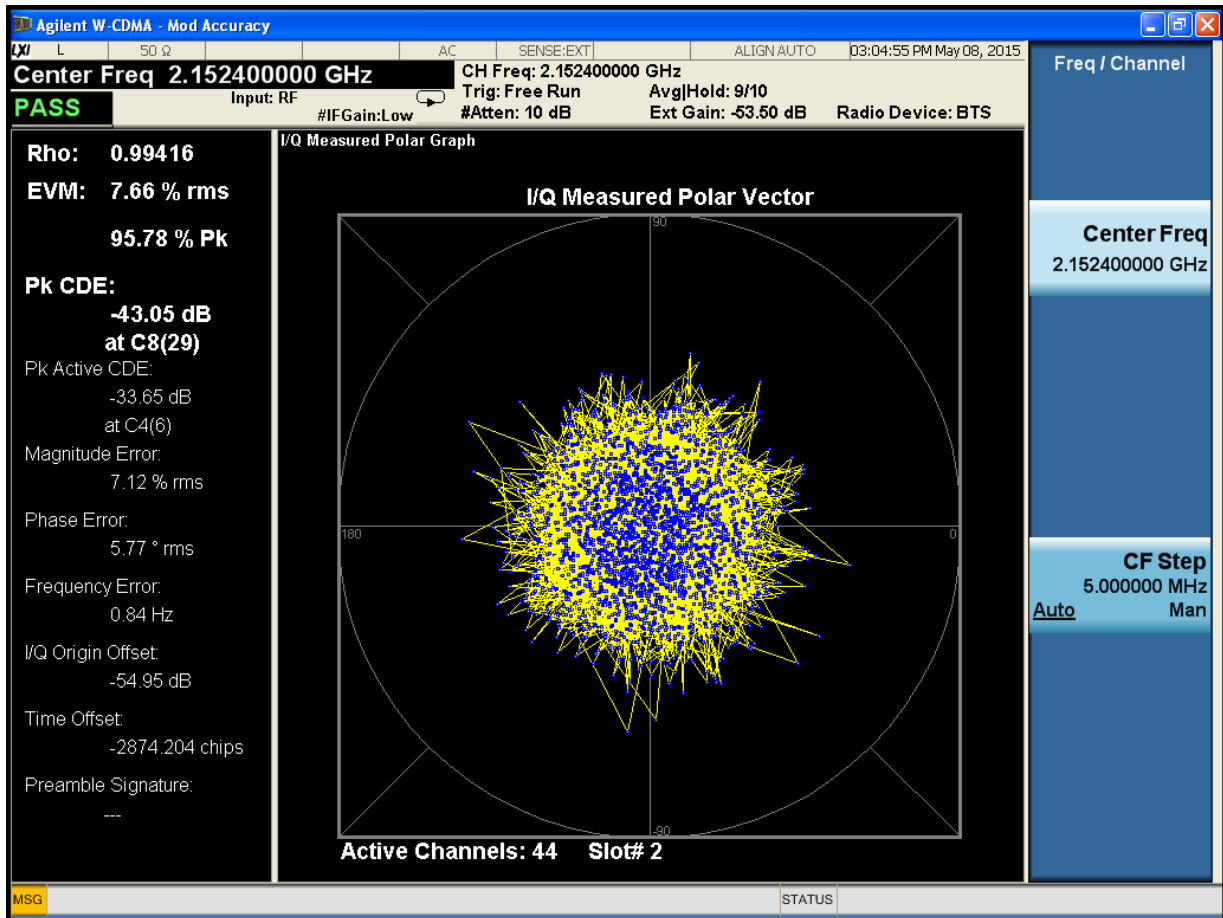
QPSK



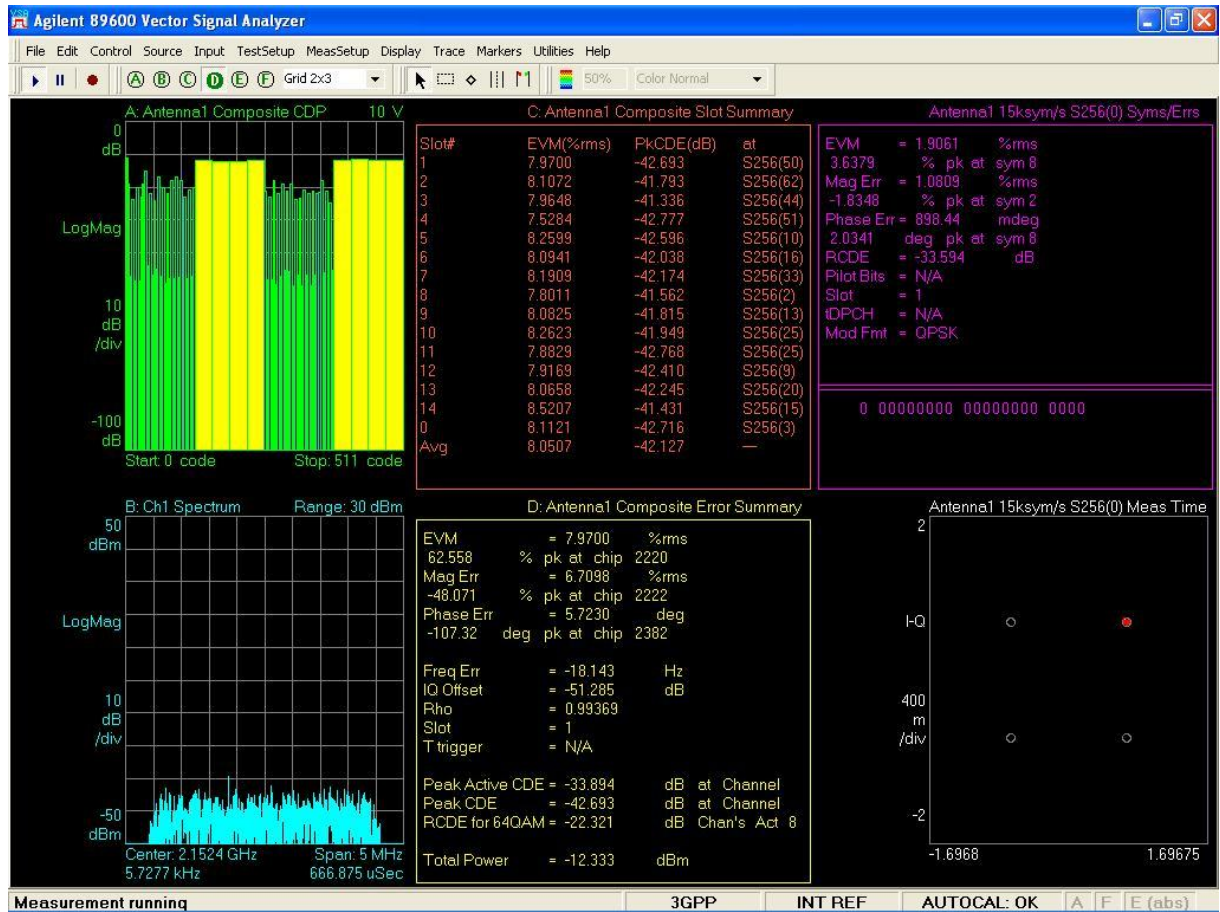


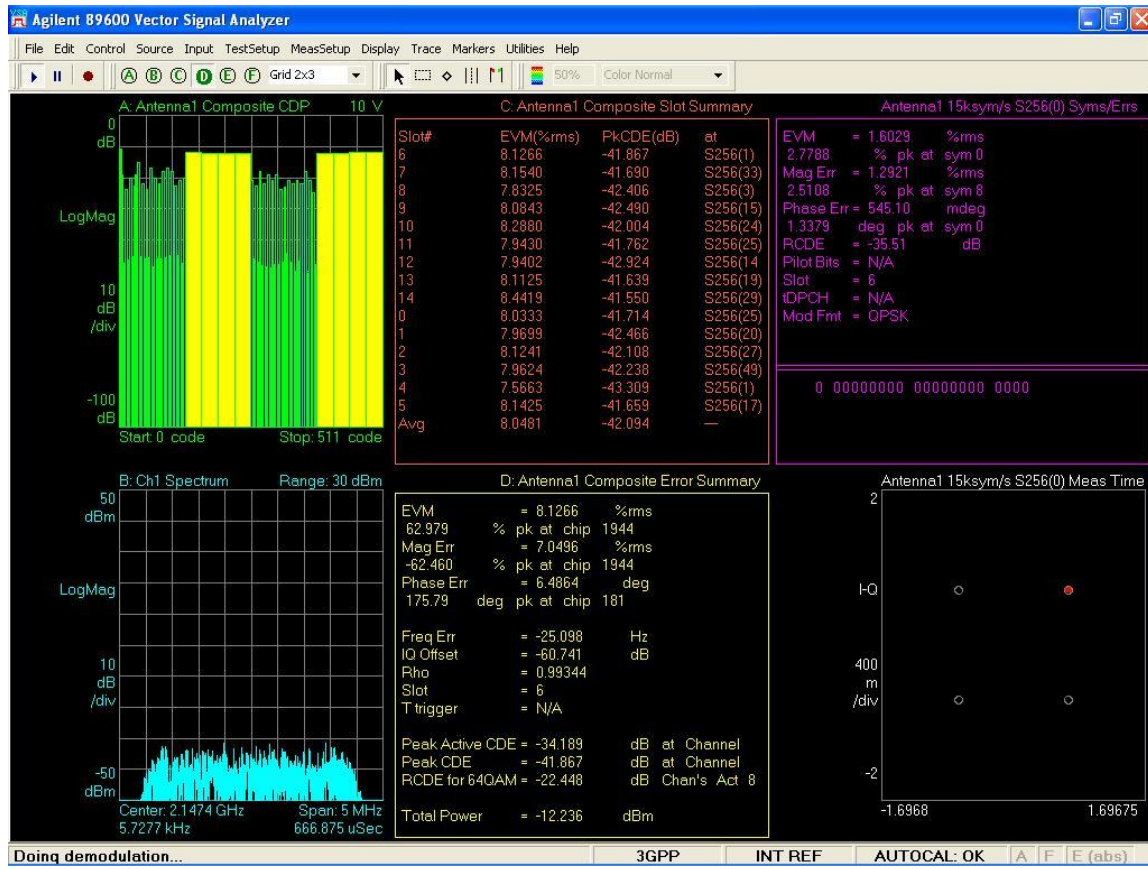
16QAM



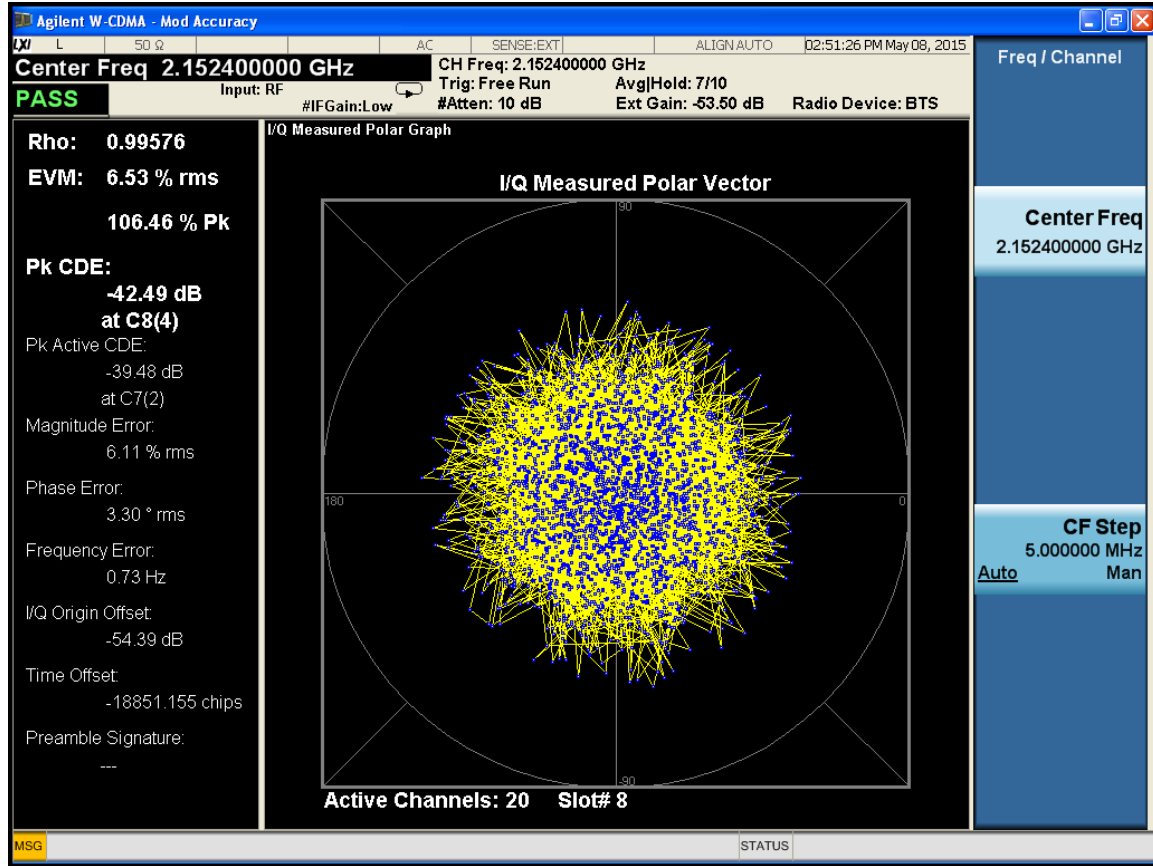


64QAM

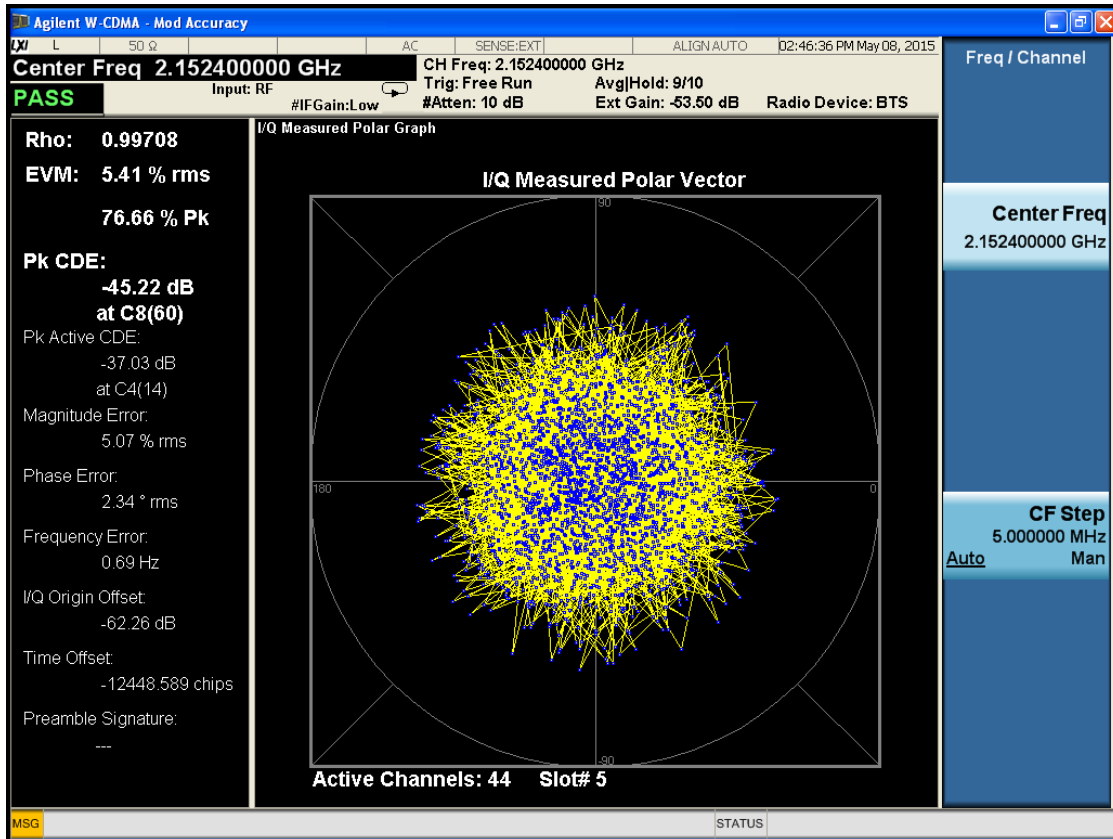




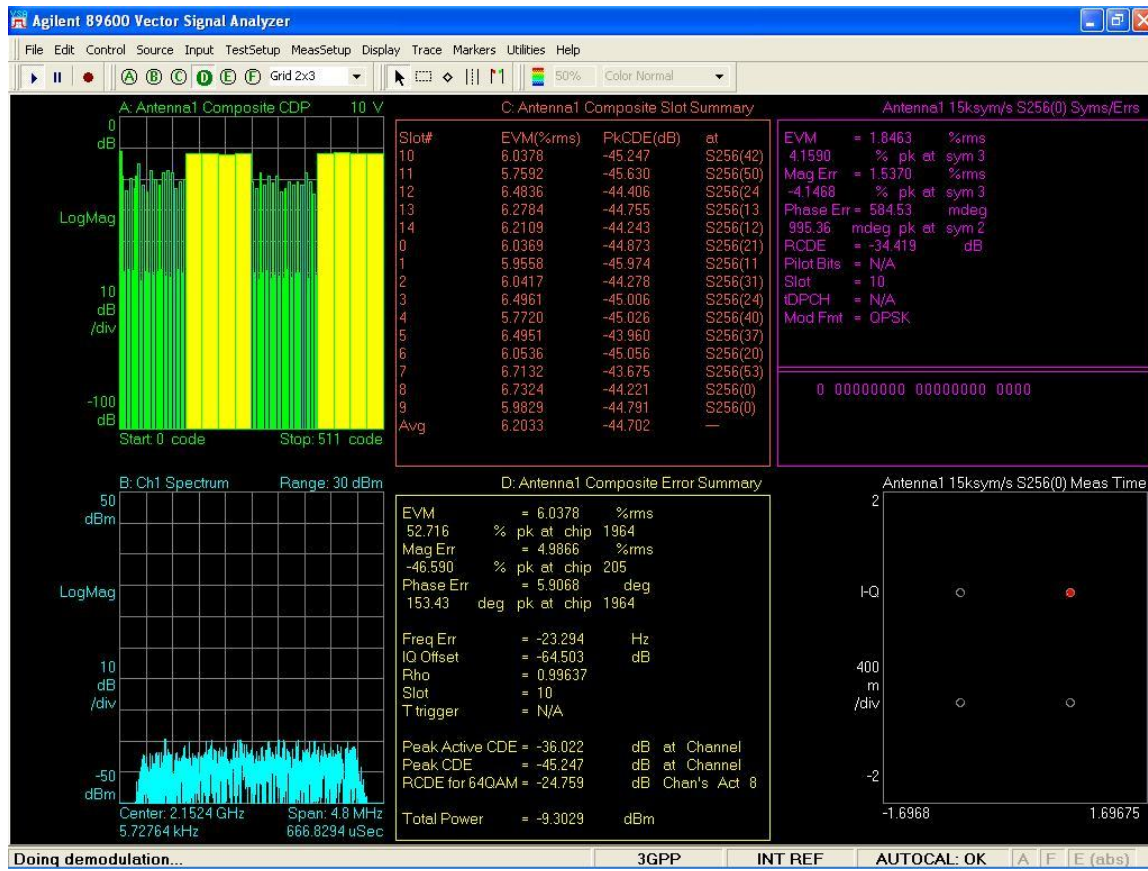
Configuration 4: QPSK



16QAM



64QAM



6 OCCUPIED BANDWIDTH

Applicable Standard: RSS-GEN § 6.6

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power.

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	PXA Series Spectrum Analyzer	N9030A	MY49431143	2014.09.16	2015.09.16
DTS	DTS 40dB Attenuator	DTS100-40-3-1	201312160104	2014.09.16	2015.09.16

***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 out of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation. 99%Power bandwidth was recorded.

Environmental Conditions

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

Test Result: Pass

Test Mode: Transmitting UMTS+LTE

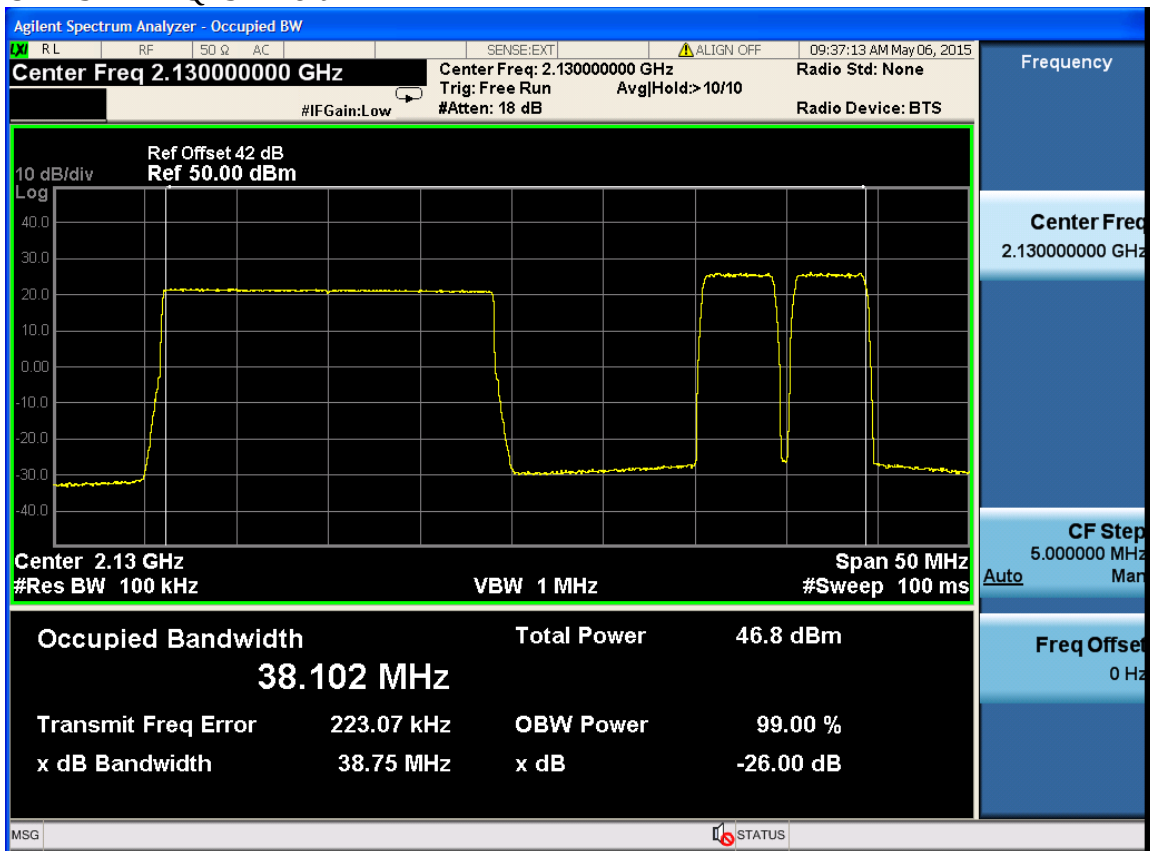
configurati on	Radio mode	Bandwidth	LTE frequency And Power		UMTS 1 Carrier frequency And Power		UMTS 2 Carrier frequency And Power	
NO	UMTS+LTE	IBW:40MHz	Frequency (MHz)	Power/ Port	Frequency (MHz)	Power/ Port	Frequency (MHz)	Power /Port
1	1L+2U	2110-2150	2110-2130	20W	2139.9 -2144.9	15W	2144.9 -2149.9	15W
2	1L+2U	2110-2150	2110-2125	20W	2139.9 -2144.9	15W	2144.9 -2149.9	15W
3	1L+2U	2115-2155	2115-2125	20W	2144.9 -2149.9	15W	2149.9 -2154.9	15W
4	1L+1U	2115-2155	2115-2130	20W	2149.9 -2154.9	30W		

Test Data

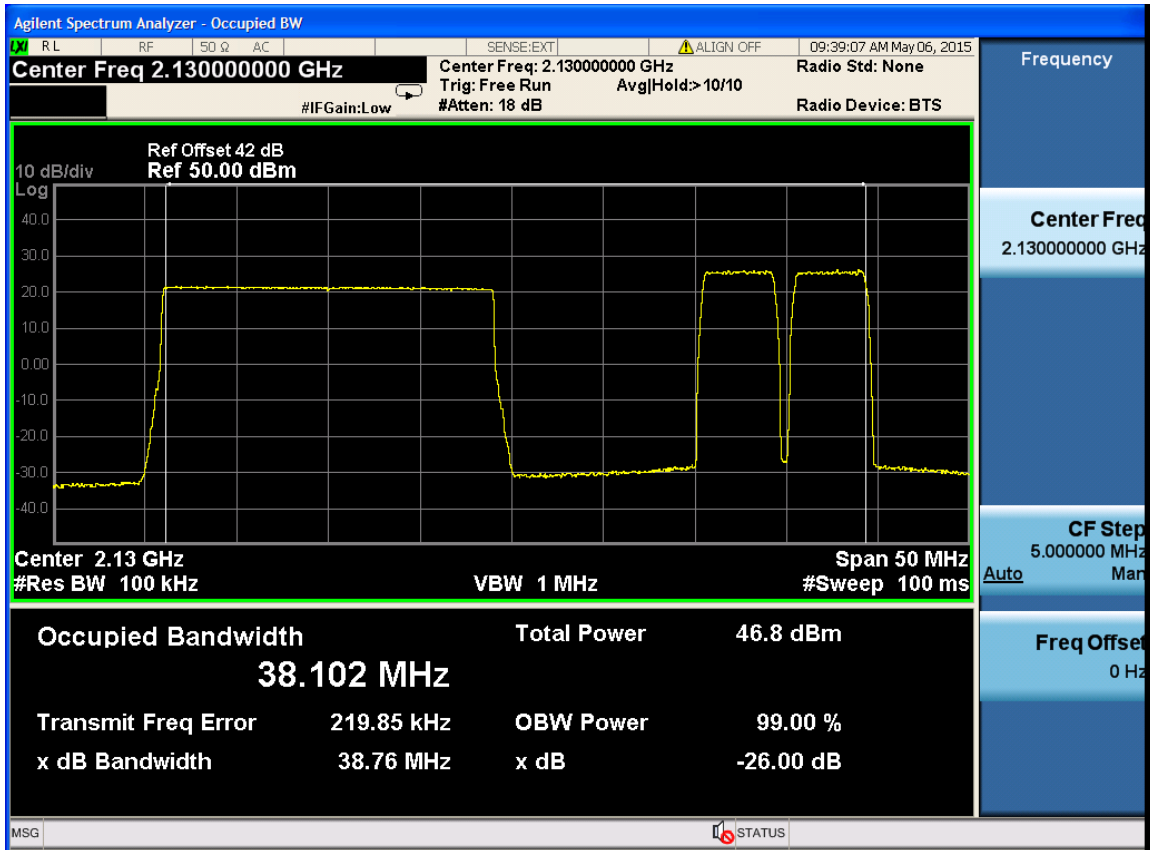
configuration	Port	UMTS+LTE Carrier Center Freq. (MHz)	Occupied Bandwidth(MHz)		
			QPSK	16QAM	64QAM

configuration	Port	UMTS+LTE Carrier Center Freq. (MHz)	Occupied Bandwidth(MHz)		
			QPSK	16QAM	64QAM
1	1	2130	38.102	38.087	38.097
	2	2130	38.102	38.120	38.113
2	1	2130	38.390	38.426	38.391
	2	2130	38.391	38.344	38.402
3	1	2135	38.709	38.692	38.707
	2	2135	38.709	38.689	38.705
4	1	2135	38.460	38.435	38.464
	2	2135	38.477	38.422	38.464

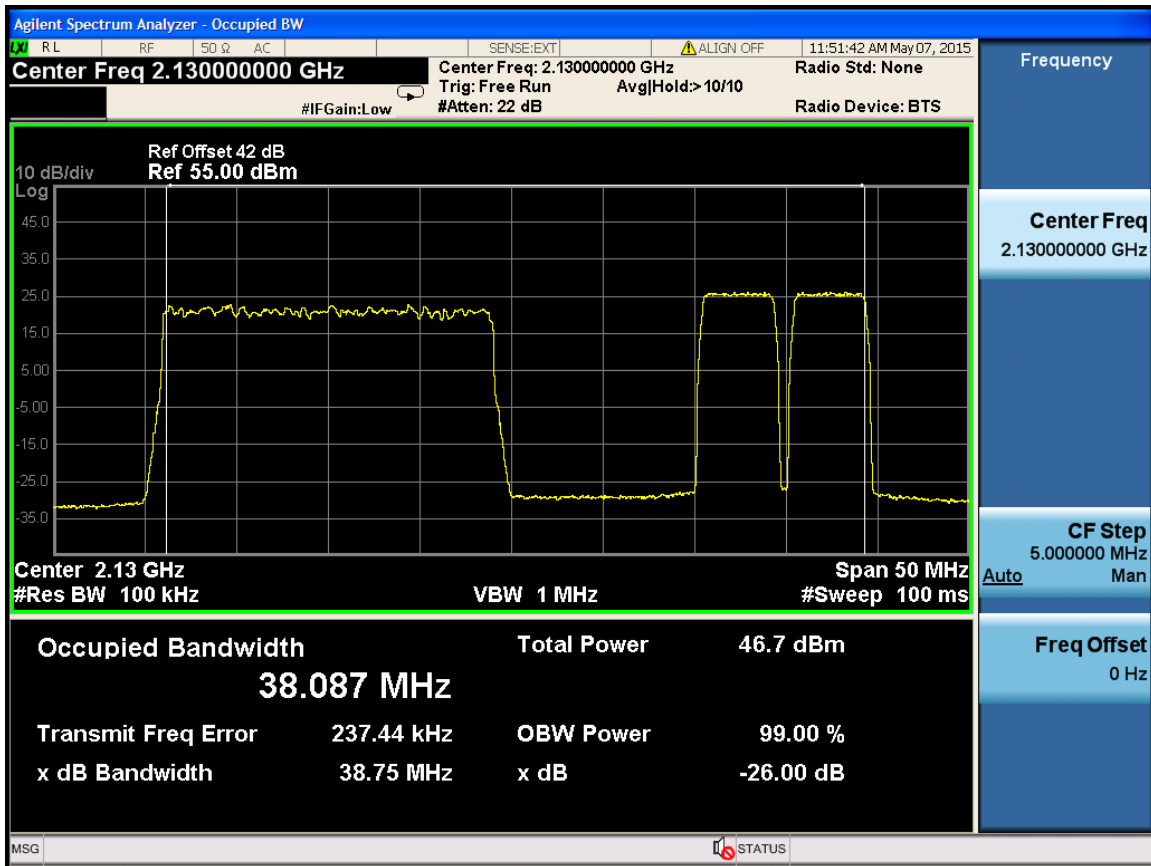
Configuration1:
UMTS+LTE-QPSK-Port 1



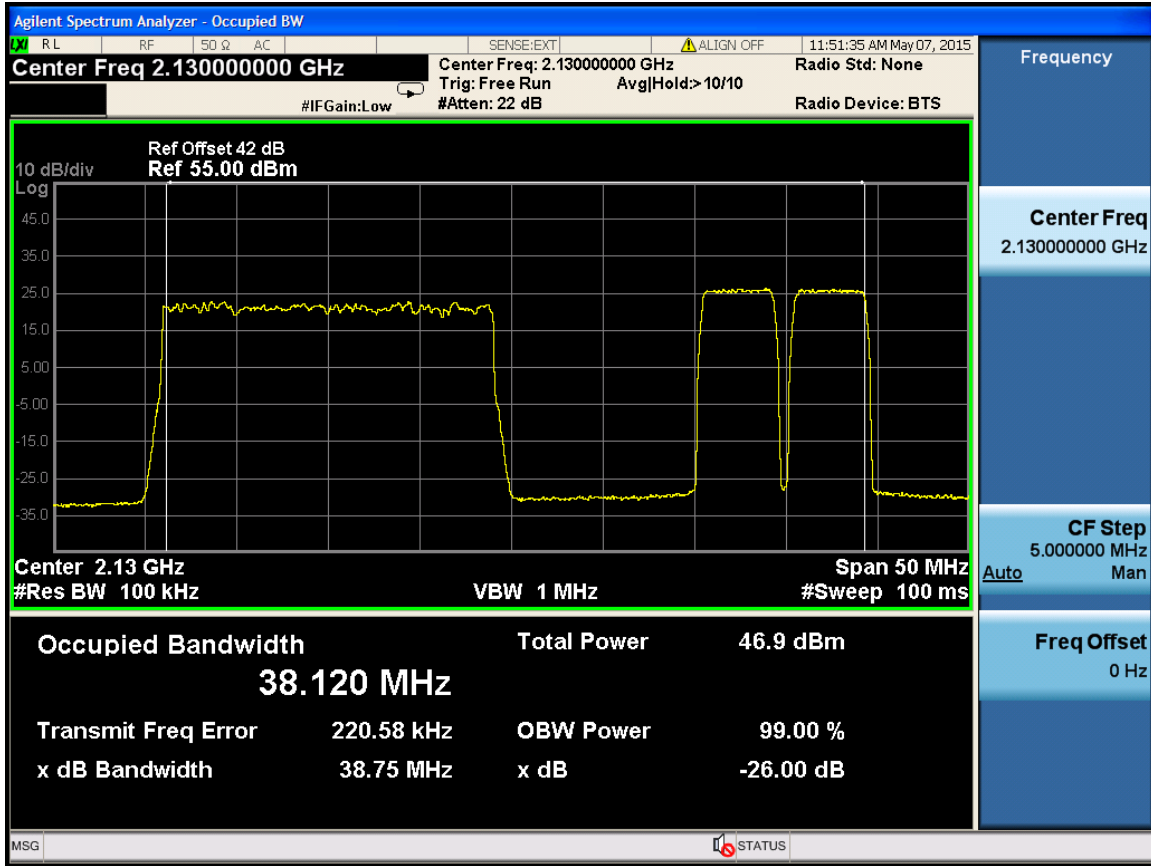
UMTS+LTE-QPSK-Port 2



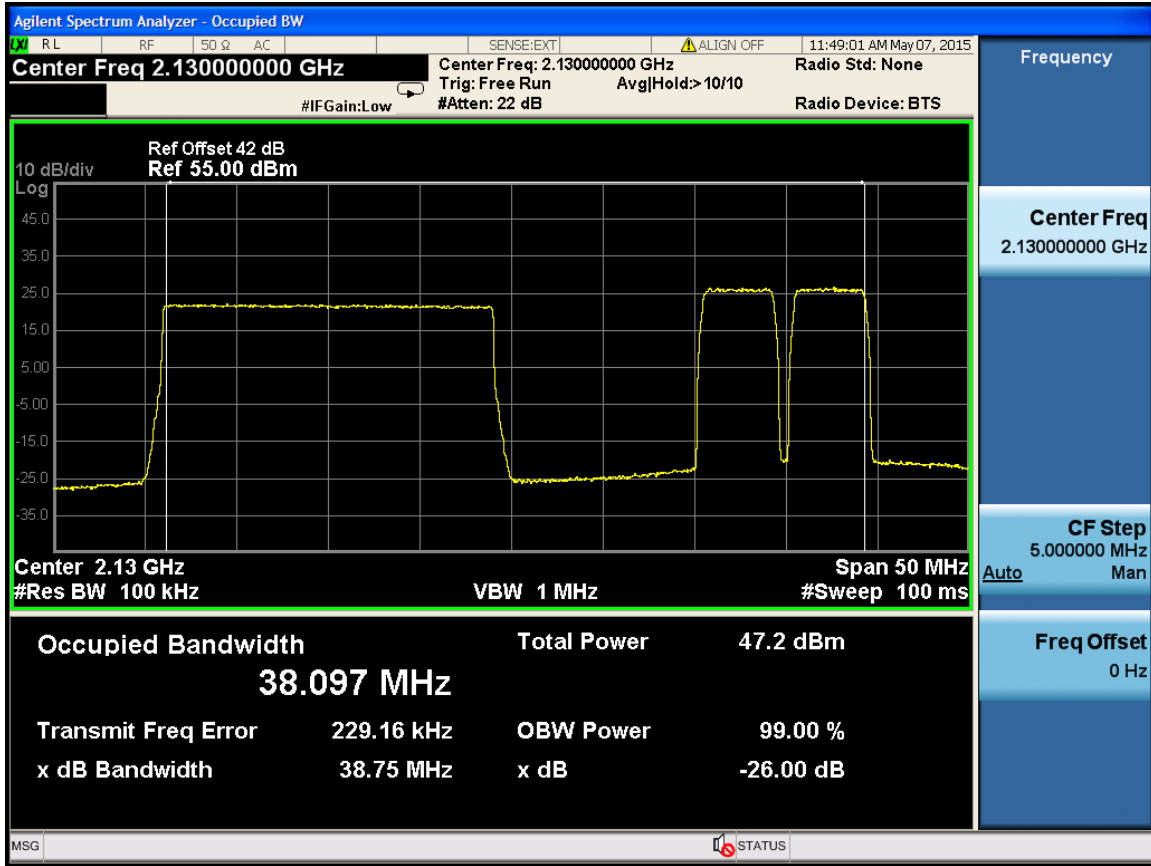
UMTS+LTE-16QAM-Port 1



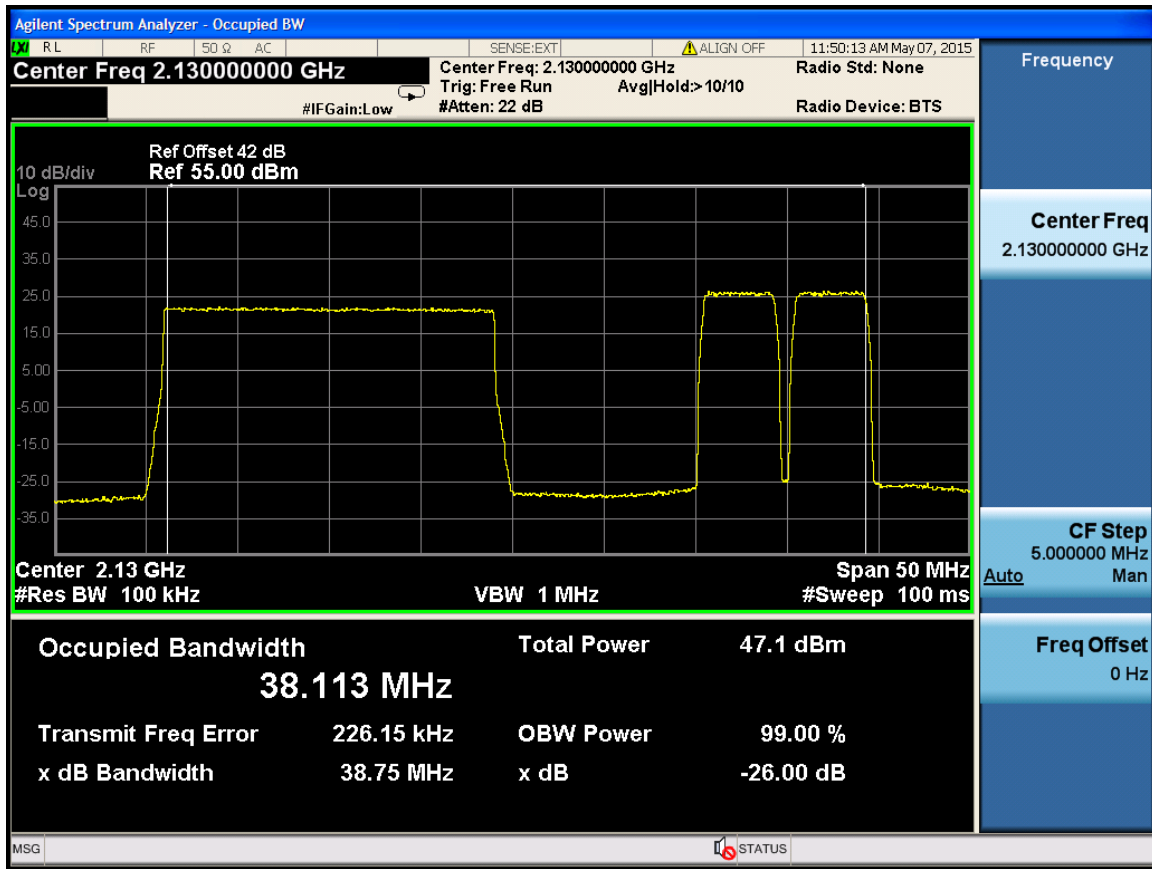
UMTS+LTE-16QAM-Port 2



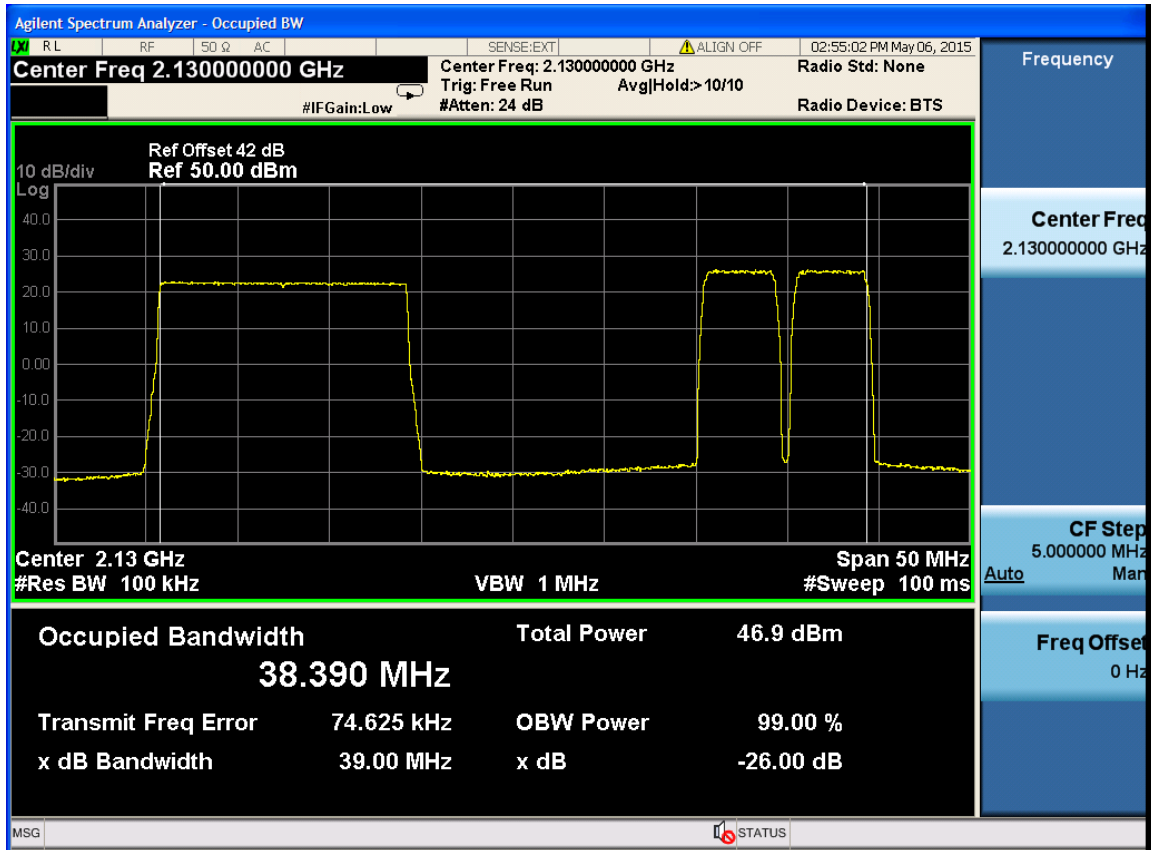
UMTS+LTE-64QAM-Port 1



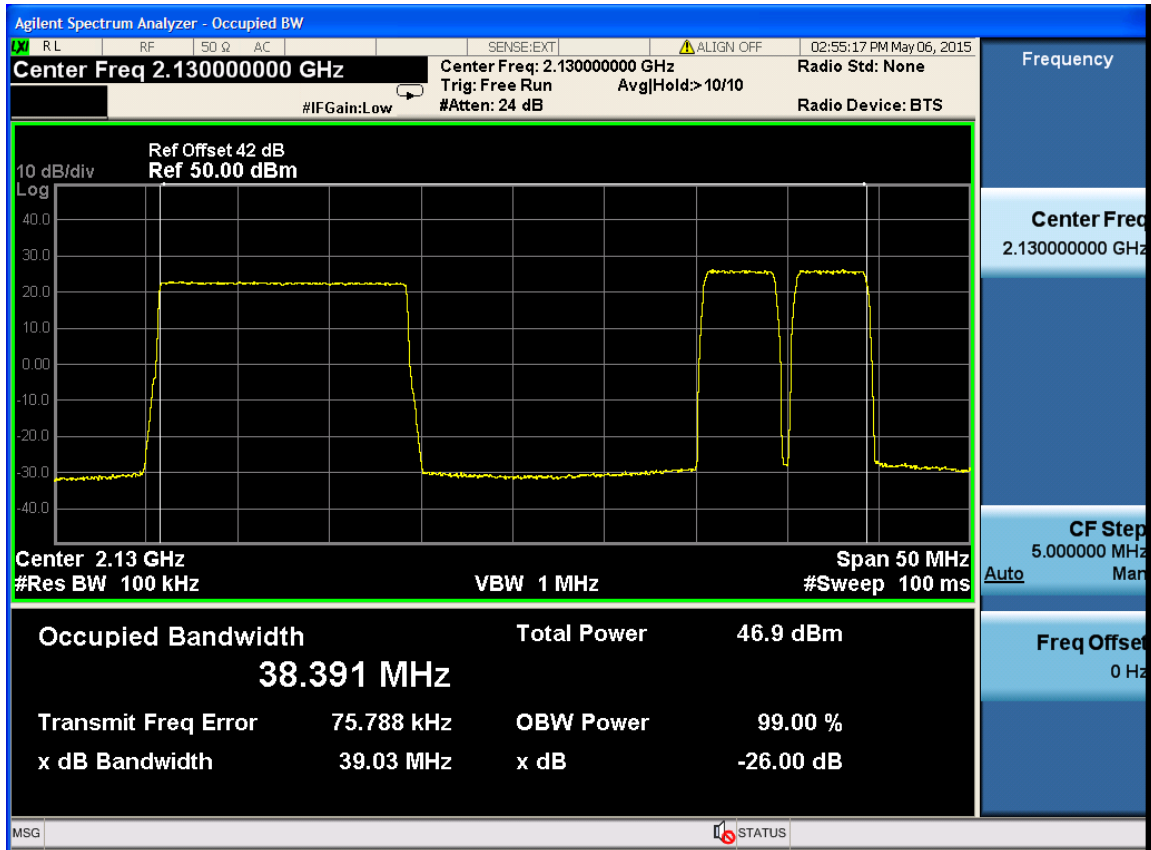
UMTS+LTE-64QAM-Port 2



Configuration2:
UMTS+LTE-QPSK-Port 1



UMTS+LTE-QPSK-Port 2



UMTS+LTE-16QAM-Port 1