



Test Report

Product Name : CBS 3.65GHz
Model No. : BSMax-365
FCC ID. : W93-BSMAX365

Applicant : FRC INTERNET PRODUCTS, LCC
Address : 4421 SW 85th Way, Gainesville, Florida 32608, USA

Date of Receipt : 2011/12/14
Issued Date : 2012/02/21
Report No. : 11C274R-RFUSP36V01
Report Version : V1.0

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Test Report Certification

Issued Date : 2012/02/21

Report No. : 11C274R-RFUSP36V01



Product Name : CBS 3.65GHz
 Applicant : FRC INTERNET PRODUCTS, LCC
 Address : 4421 SW 85th Way, Gainesville, Florida 32608, USA
 Manufacturer : TRANSYSTEM INC.
 Model No. : BSMax-365
 FCC ID. : W93-BSMAX365
 EUT Voltage : AC 120~230V/50~60Hz
 Trade Name : FRC
 Applicable Standard : FCC CFR Title 47 Part 2 and Part 90 Subpart Z
 TIA/EIA 603-C: 2004
 Test Result : Complied

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of Quietek Corporation.

Documented By :

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Reviewed By :

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Approved By :

(Roy Wang / Manager)

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1. General Information

1.1. EUT Description

Product Name	CBS 3.65GHz
Trade Name	FRC
Model No.	BSMax-365
Bandwidth(MHz)	3.5, 5, 7, 10
Frequency Range(MHz)	3650-3675
Type of Modulation	UL: QPSK 1/2, 3/4; 16QAM 1/2, 3/4; 64QAM 1/2, 2/3, 3/4, 5/6 DL: QPSK 1/2, 3/4; 16QAM 1/2, 3/4; 64QAM 1/2, 2/3, 3/4, 5/6
Antenna Gain	16dBi
Antenna Type	Panel Antenna

3.5MHz

Working Frequency of Each Channel					
Channel	Frequency	Channel	Frequency	Channel	Frequency
Low	3651.75MHz	Middle	3662.5 MHz	High	3673.25 MHz

5MHz

Working Frequency of Each Channel					
Channel	Frequency	Channel	Frequency	Channel	Frequency
Low	3652.5MHz	Middle	3662.5 MHz	High	3672.5 MHz

7MHz

Working Frequency of Each Channel					
Channel	Frequency	Channel	Frequency	Channel	Frequency
Low	3653.5 MHz	Middle	3662.5 MHz	High	3671.5 MHz

10MHz

Working Frequency of Each Channel					
Channel	Frequency	Channel	Frequency	Channel	Frequency
Low	3655.0 MHz	Middle	3662.5 MHz	High	3670.0 MHz

Note:

1. This device is a CBS 3.65GHz, which is operating in the 3650-3675 MHz band supporting restricted contention based protocol.
2. For the restricted contention based protocol, only FRC CPEMax-OD365 (FCC ID: W93-CPEMAXOD365) could communicate with this device.
3. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 90 Subpart M for OFMDA digital devices.
4. Regards to the frequency band operations; three channels were selected to perform the test, and then show on this report.
5. This device is a composite device in accordance with Part 15 regulations. The function receiving was measured and made a test report that the report number is 11C274R-RFUSP24V02 under Declaration of Conformity.

1.2. Test Mode

The EUT has different channel bandwidths, modulation types and coding rates. Maximum output power was pre-tested and showed as below table:

3.5MHz Bandwidth (Ant 0):

Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	QPSK_1/2	QPSK_3/4	16QAM_1/2	16QAM_3/4
3651.75	13.37	13.58	13.61	13.24
3662.50	12.78	13.17	13.23	12.79
3673.25	14.20	14.63	14.75	14.16
Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	64QAM_1/2	64QAM_2/3	64QAM_3/4	64QAM_5/6
3651.75	13.27	13.99	12.88	13.36
3662.50	13.51	13.74	12.67	12.92
3673.25	14.82	15.35	14.32	14.51

3.5MHz Bandwidth (Ant 1):

Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	QPSK_1/2	QPSK_3/4	16QAM_1/2	16QAM_3/4
3651.75	15.63	14.54	14.48	14.21
3662.50	15.04	13.69	13.59	13.39
3673.25	15.08	14.16	14.35	13.67
Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	64QAM_1/2	64QAM_2/3	64QAM_3/4	64QAM_5/6
3651.75	14.44	14.81	14.35	14.51
3662.50	13.64	14.16	13.52	13.62
3673.25	13.99	14.30	13.87	13.85

3.5MHz Bandwidth (Ant 0+1):

Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	QPSK_1/2	QPSK_3/4	16QAM_1/2	16QAM_3/4
3651.75	17.66	17.10	17.08	16.76
3662.50	17.07	16.45	16.42	16.11
3673.25	17.67	17.41	17.56	16.93
Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	64QAM_1/2	64QAM_2/3	64QAM_3/4	64QAM_5/6
3651.75	16.90	17.43	16.69	16.98
3662.50	16.59	16.97	16.13	16.29
3673.25	17.44	17.87	17.11	17.20

5MHz Bandwidth (Ant 0):

Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	QPSK_1/2	QPSK_3/4	16QAM_1/2	16QAM_3/4
3652.50	16.04	15.49	16.02	16.26
3662.50	15.62	15.99	15.81	15.89
3672.50	17.01	17.24	17.16	17.14
Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	64QAM_1/2	64QAM_2/3	64QAM_3/4	64QAM_5/6
3652.50	15.63	16.63	15.62	15.77
3662.50	15.54	16.08	15.35	15.61
3672.50	16.82	17.03	16.64	17.06

5MHz Bandwidth (Ant 1):

Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	QPSK_1/2	QPSK_3/4	16QAM_1/2	16QAM_3/4
3652.50	16.85	15.49	17.09	17.19
3662.50	16.10	16.43	16.59	16.21
3672.50	16.34	16.49	16.76	16.25
Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	64QAM_1/2	64QAM_2/3	64QAM_3/4	64QAM_5/6
3652.50	16.37	16.90	16.49	16.92
3662.50	15.84	16.96	15.90	15.80
3672.50	15.98	16.99	16.07	16.11

5MHz Bandwidth (Ant 0+1):

Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	QPSK_1/2	QPSK_3/4	16QAM_1/2	16QAM_3/4
3652.50	19.47	19.47	19.60	19.76
3662.50	18.88	19.23	19.23	19.06
3672.50	19.70	19.89	19.97	19.73
Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	64QAM_1/2	64QAM_2/3	64QAM_3/4	64QAM_5/6
3652.50	19.03	19.78	19.09	19.39
3662.50	18.70	19.55	18.64	18.72
3672.50	19.43	20.02	19.37	19.62

7MHz Bandwidth (Ant 0):

Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	QPSK_1/2	QPSK_3/4	16QAM_1/2	16QAM_3/4
3653.50	16.51	16.60	16.77	16.63
3662.50	16.24	16.10	16.40	16.10
3671.50	17.78	17.81	17.96	17.77
Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	64QAM_1/2	64QAM_2/3	64QAM_3/4	64QAM_5/6
3653.50	16.83	16.65	16.62	16.60
3662.50	16.33	16.31	16.29	16.51
3671.50	18.04	17.91	17.70	17.83

7MHz Bandwidth (Ant 1):

Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	QPSK_1/2	QPSK_3/4	16QAM_1/2	16QAM_3/4
3653.50	17.50	17.41	17.59	17.41
3662.50	16.78	16.50	16.84	16.70
3671.50	16.92	16.96	17.02	17.08
Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	64QAM_1/2	64QAM_2/3	64QAM_3/4	64QAM_5/6
3653.50	17.42	18.02	17.43	18.09
3662.50	16.77	17.18	16.83	17.27
3671.50	16.46	17.17	17.06	17.42

7MHz Bandwidth (Ant 0+1):

Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	QPSK_1/2	QPSK_3/4	16QAM_1/2	16QAM_3/4
3653.50	20.04	20.03	20.21	20.05
3662.50	19.53	19.31	19.64	19.42
3671.50	20.38	20.42	20.53	20.45
Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	64QAM_1/2	64QAM_2/3	64QAM_3/4	64QAM_5/6
3653.50	20.15	20.40	20.05	20.42
3662.50	19.57	19.78	19.58	19.92
3671.50	20.33	20.57	20.40	20.64

10MHz Bandwidth (Ant 0):

Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	QPSK_1/2	QPSK_3/4	16QAM_1/2	16QAM_3/4
3655.00	18.78	19.33	18.88	18.40
3662.50	18.14	18.69	18.32	17.81
3670.00	19.37	19.91	19.64	19.25
Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	64QAM_1/2	64QAM_2/3	64QAM_3/4	64QAM_5/6
3655.00	18.29	18.84	18.32	19.02
3662.50	17.66	18.42	17.60	18.42
3670.00	18.89	19.62	18.73	19.70

10MHz Bandwidth (Ant 1):

Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	QPSK_1/2	QPSK_3/4	16QAM_1/2	16QAM_3/4
3655.00	19.47	20.11	19.73	19.44
3662.50	18.57	19.20	18.83	18.45
3670.00	18.73	19.16	18.82	18.58
Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	64QAM_1/2	64QAM_2/3	64QAM_3/4	64QAM_5/6
3655.00	19.14	19.56	19.17	19.76
3662.50	18.09	18.37	18.04	18.71
3670.00	18.04	18.60	18.04	18.75

10MHz Bandwidth (Ant 0+1):

Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	QPSK_1/2	QPSK_3/4	16QAM_1/2	16QAM_3/4
3655.00	22.15	22.75	22.34	21.96
3662.50	21.37	21.96	21.59	21.15
3670.00	22.07	22.56	22.26	21.94
Frequency (MHz)	Maximum Output Power (dBm)			
	Modulation type and coding rate			
	64QAM_1/2	64QAM_2/3	64QAM_3/4	64QAM_5/6
3655.00	21.75	22.23	21.78	22.42
3662.50	20.89	21.41	20.84	21.58
3670.00	21.50	22.15	21.41	22.26

According to the above table, find the worst cases of the transmitter. And the worst cases of the receiver are defined corresponding to the most robust modulation and coding rate. These worst cases were selected for final test configuration in this test report.

Final Test Model	
TX	Mode 1: Transmit (3.5MHz BW_QPSK1/2) Mode 2: Transmit (3.5MHz BW_16QAM1/2) Mode 3: Transmit (3.5MHz BW_64QAM2/3) Mode 4: Transmit (5MHz BW_QPSK3/4) Mode 5: Transmit (5MHz BW_16QAM1/2) Mode 6: Transmit (5MHz BW_64QAM2/3) Mode 7: Transmit (7MHz BW_QPSK3/4) Mode 8: Transmit (7MHz BW_16QAM1/2) Mode 9: Transmit (7MHz BW_64QAM5/6) Mode 10: Transmit (10MHz BW_QPSK3/4) Mode 11: Transmit (10MHz BW_16QAM1/2) Mode 12: Transmit (10MHz BW_64QAM5/6)

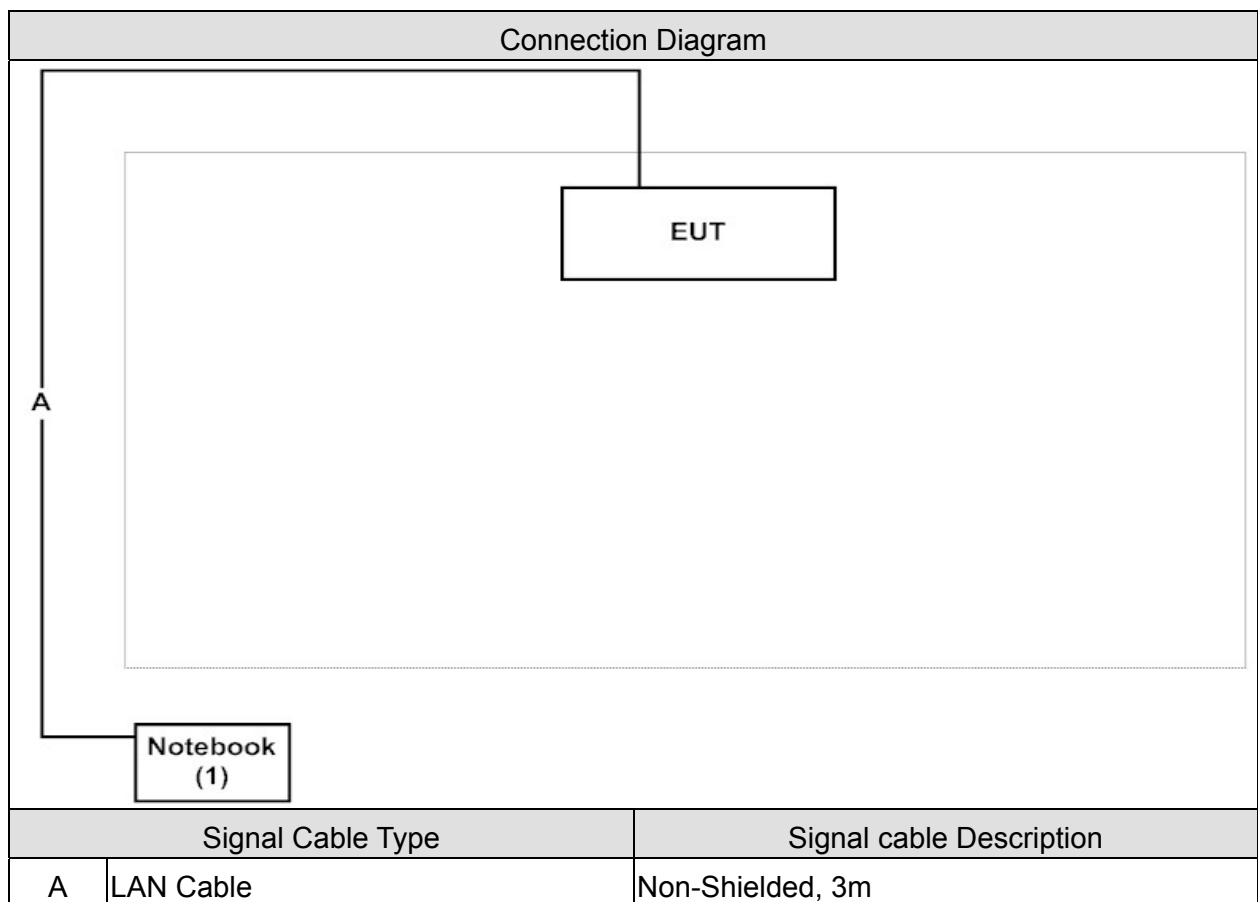
Emission	Mode 1 ~ Mode 12
Maximum conducted output power	Yes
Peak EIRP power density	Yes
Occupied bandwidth	Yes
Emission Mask	Yes
Conducted Spurious Emission	Yes
Radiated Spurious Emission	Yes
Frequency Stability Over Temperatures Variation	Yes
Frequency Stability Over Voltage Variation	Yes

1.4. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1	Notebook	HP	HSTNN-I05C	CNU7020BXT	DoC	Non-Shielded, 1.8m

1.5. Configuration of tested System



1.6. EUT Exercise Software

1	Setup the EUT as shown in Section 5.
2	Use "telnet" command to control the EUT.
3	Configure the test bandwidth, the test modulation, and the channel.
4	The EUT will transmit the traffic data.
5	Verify that the EUT works properly.
6	Repeat the above procedure (3) to (5).

1.7. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)	PART 90.1321 Equivalent isotropically radiated power (EIRP)	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	PART 90.209 Occupied Bandwidth	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	PART 90.210(b) Spectrum Emission Mask	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	PART 90.1323 Conducted Spurious Emission	15 - 35	25
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	PART 90.1323 Radiated Spurious Emission	15 - 35	25
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	PART 90.213 Frequency Stability Over Temperature Variation	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	PART 90.213 Frequency Stability Over Voltage Variation	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000

Site Description: September 27, 2010 File on
Federal Communications Commission
Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 365520



Accredited by TAF
Accreditation Number: 1313
Effective through: December 27, 2013



Accredited by NVLAP
NVLAP Lab Code: 200347-0
Effective through: September 30, 2012



Site Name: Quietek Corporation
Site Address: No. 75-2, 3rd Lin, Wangye Keng, Yonghxing
Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan
TEL : 886-3-5928858 / FAX : 886-3-5928859
E-Mail : service@quietek.com

2. Equivalent isotropically radiated power (EIRP)

2.1. Test Equipment

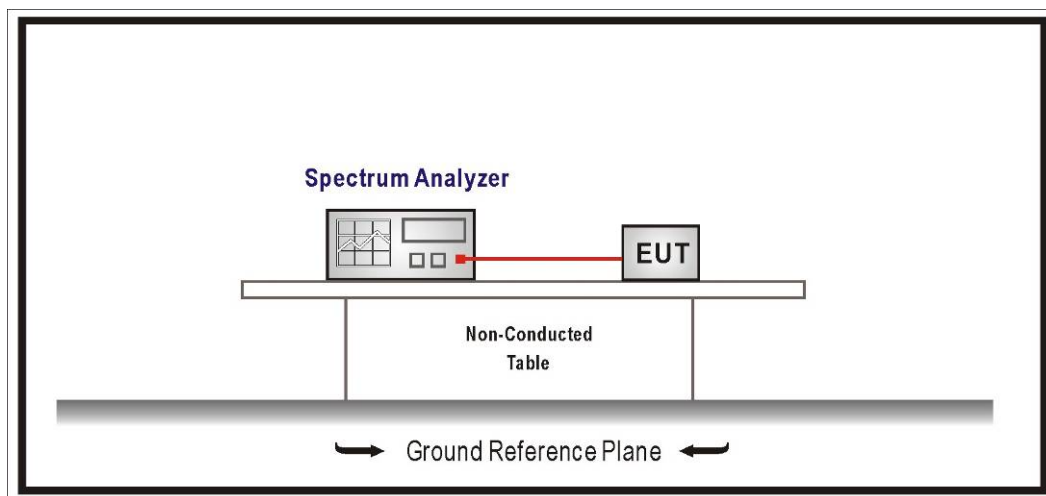
The following test equipments are used during the test:

Peak EIRP Power Density / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2012/07/13

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

2.2. Test Setup



2.3. Test Limit

Base and fixed stations are limited to 25 watts/25 MHz equivalent isotropically radiated power (EIRP). In any event, the peak EIRP power density shall not exceed 1 Watt in any onemegahertz slice of spectrum.

Bandwidth (MHz)	EIRP limit		EIRP power density	
	(W)	(dBm)	(W/MHz)	(dBm/MHz)
3.5	3.5	35.44	1	30
5.0	5.0	36.99		
7.0	7.0	38.45		
10.0	10.0	40.00		

2.4. Test Procedure

1. Connect the DUT transmitter output to the spectrum analyzer via coaxial cable.
2. Tune the analyzer to the nominal center frequency of the emission bandwidth (EBW).
3. Set the span to twice the nominal EBW (span = 2 x EBW).
4. Set the resolution bandwidth (RBW) to approximately 1% of EBW.
5. Set the video bandwidth (VBW) to $\geq 3 \times \text{RBW}$.
6. Select the average power (RMS) display detector.
7. Set the number of measurement points to ≥ 1001 .
8. Use auto-coupled sweep time.
9. Perform measurement over an interval of time when the transmission is continuous and at its maximum power level.
10. Utilize trace averaging over 100 traces in the power averaging mode.
11. Use the Band/Channel Power function to determine the integrated power over the full EBW.
12. Record the band power level.
13. Adjust the recorded level by applying appropriate correction factors for the measurement set-up.
14. Determine the EIRP by adding the effective antenna gain to the adjusted power level.

2.5. Test Specification

FCC CFR Title 47 Part 90 Subpart Z, KDB 965270

2.6. Uncertainty

The measurement uncertainty is defined as $\pm 1.27 \text{ dB}$

2.7. Test Result

Product	CBS 3.65GHz		
Test Item	Maximum EIRP		
Test Mode	Mode 1: Transmit (3.5MHz BW_QPSK1/2)		
Date of Test	2011/12/11	Test Site	SR7

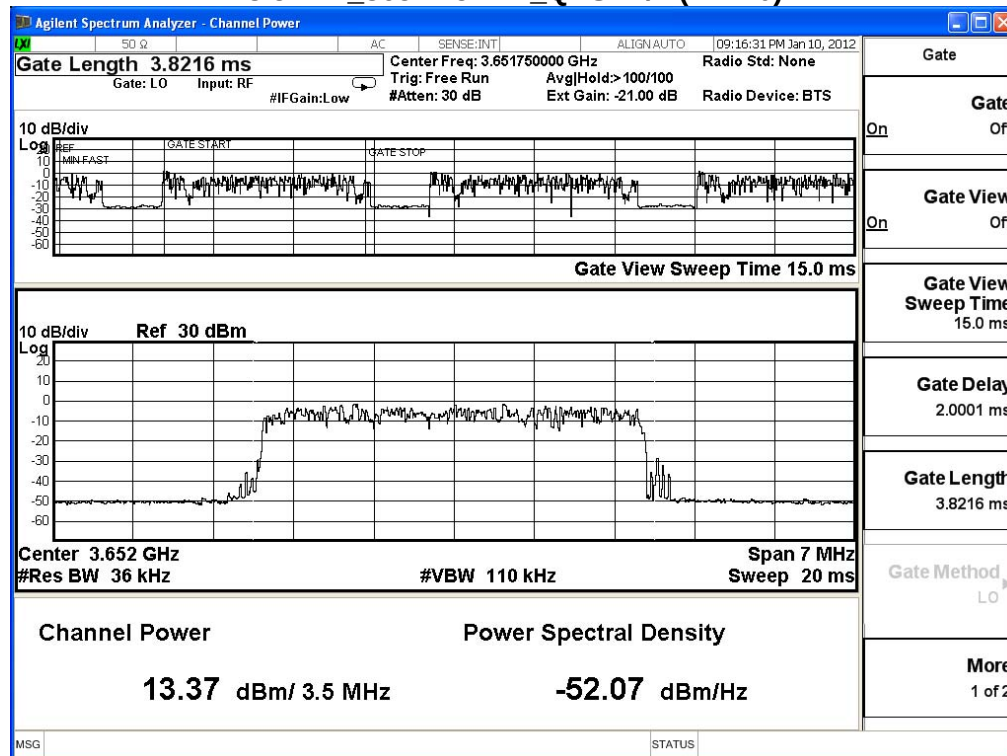
3.5MHz Bandwidth, Antenna Gain: 16dBi

Frequency (MHz)	Modulation	Output Power (dBm/3.5MHz)		Maximum Output Power (dBm/3.5MHz)	EIRP (dBm/3.5MHz)	Limit (dBm/3.5MHz)
		ANT 0	ANT 1			
3651.75	QPSK1/2	13.37	15.63	17.66	29.37	35.44
3662.50	QPSK1/2	12.78	15.04	17.07	28.78	35.44
2673.25	QPSK1/2	14.20	15.08	17.67	30.20	35.44

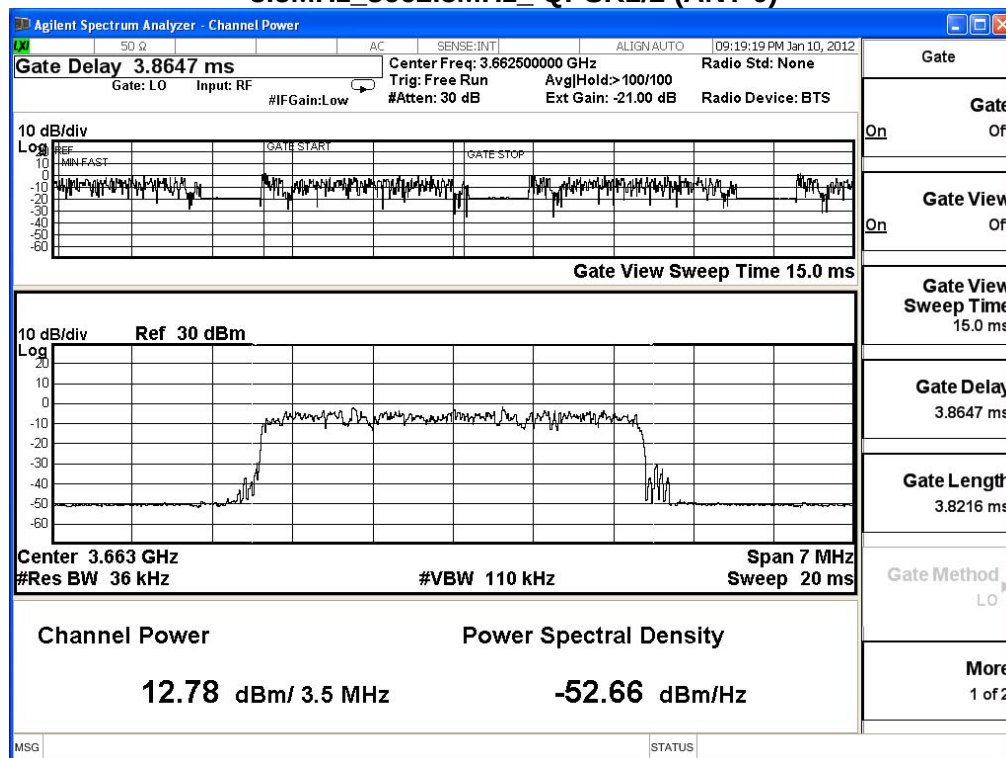
Maximum Output Power = Output Power (ANT 0 + ANT 1)

E.I.R.P = Maximum Output Power + Antenna Gain

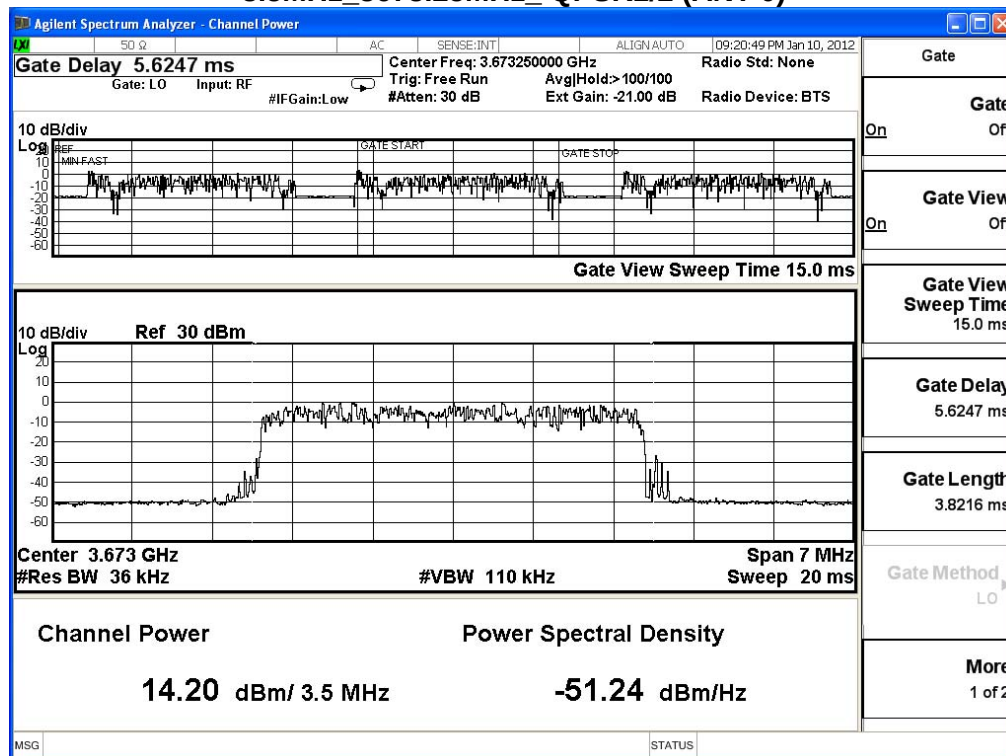
3.5MHz 3651.75MHz_QPSK1/2 (ANT 0)



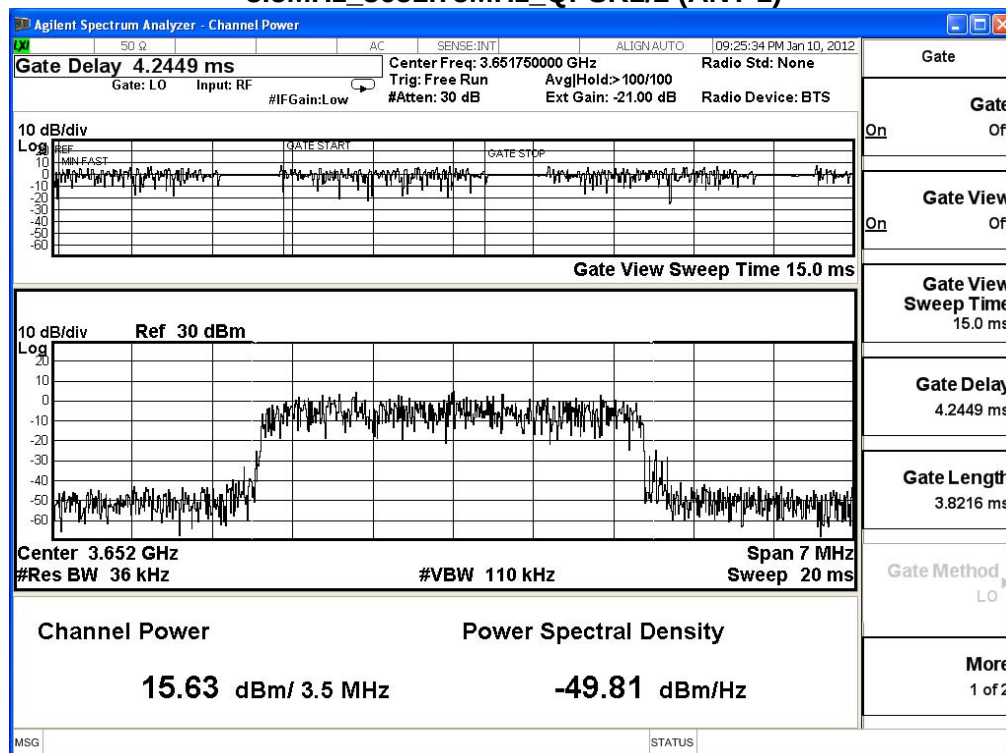
3.5MHz_3662.5MHz_QPSK1/2 (ANT 0)



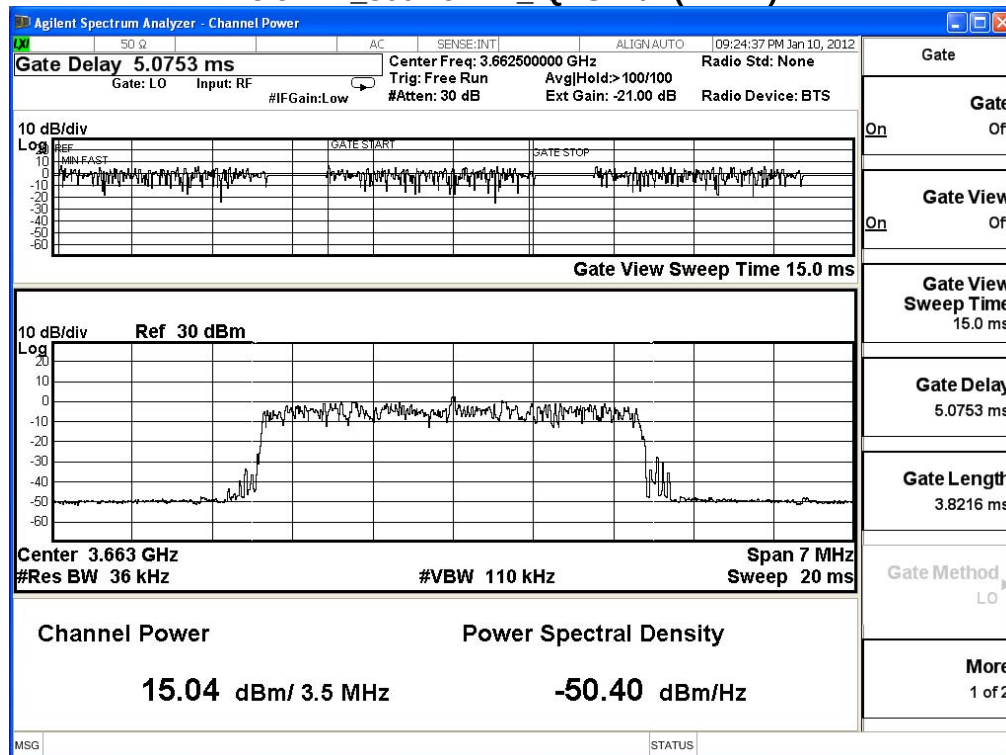
3.5MHz_3673.25MHz_QPSK1/2 (ANT 0)



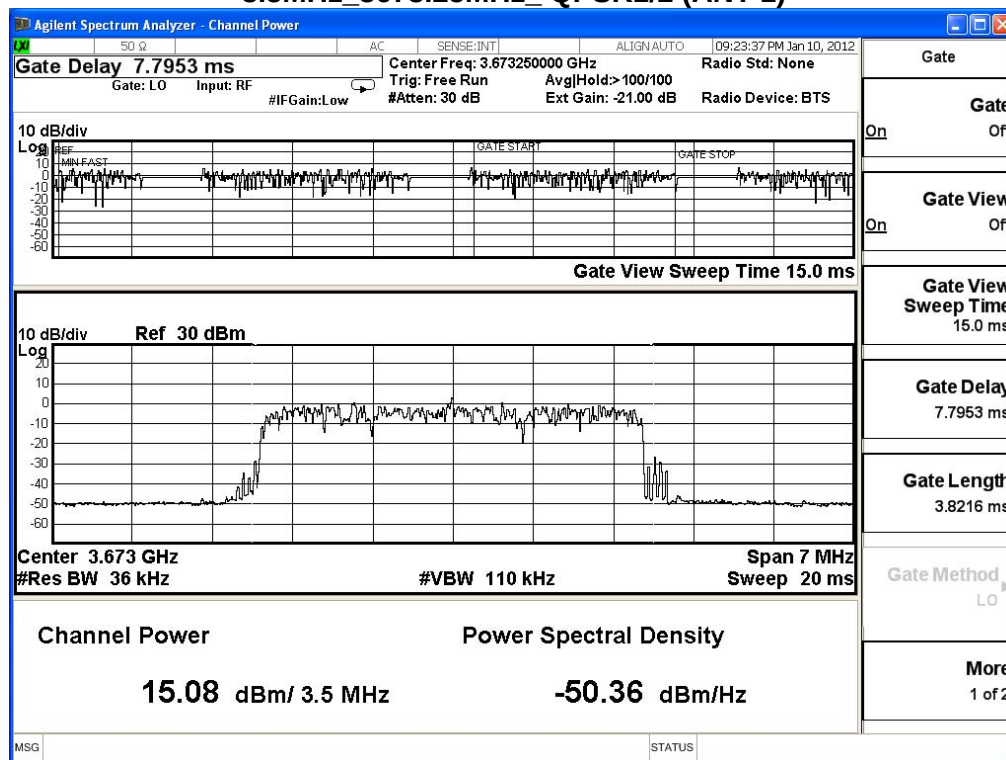
3.5MHz_3651.75MHz_QPSK1/2 (ANT 1)



3.5MHz_3662.5MHz_QPSK1/2 (ANT 1)



3.5MHz_3673.25MHz_QPSK1/2 (ANT 1)



Product	CBS 3.65GHz		
Test Item	Maximum EIRP		
Test Mode	Mode 2: Transmit (3.5MHz BW_16QAM1/2)		
Date of Test	2011/12/11	Test Site	SR7

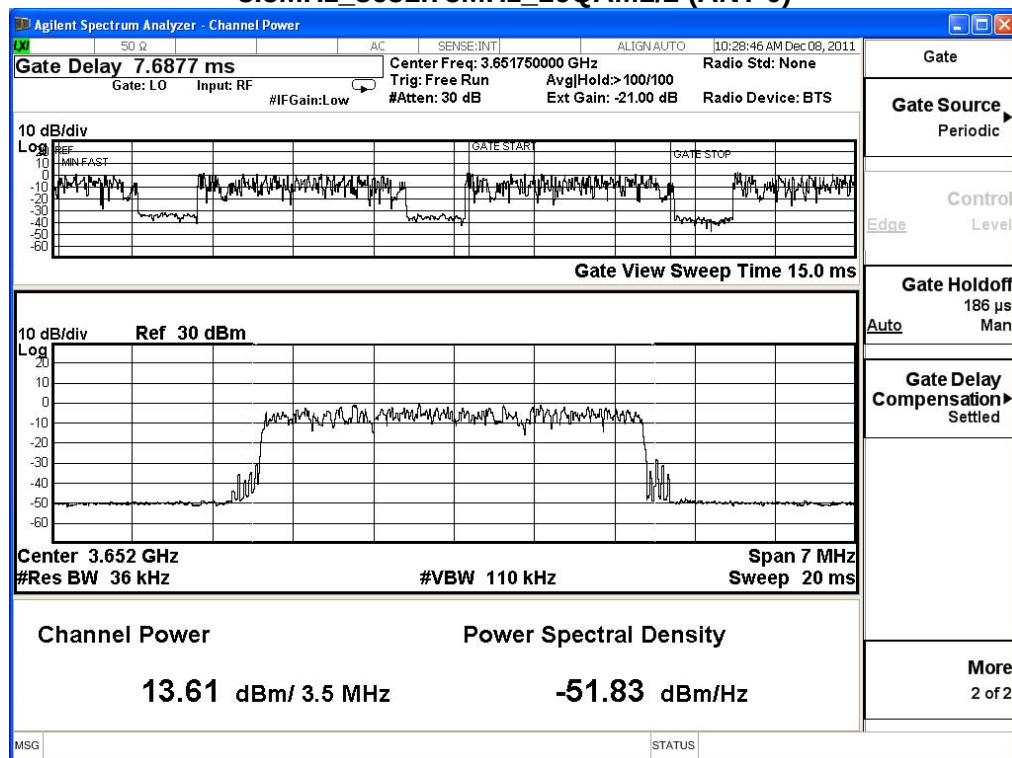
3.5MHz Bandwidth, Antenna Gain: 16dBi

Frequency (MHz)	Modulation	Output Power (dBm/3.5MHz)		Maximum Output Power (dBm/3.5MHz)	EIRP (dBm/3.5MHz)	Limit (dBm/3.5MHz)
		ANT 0	ANT 1			
3651.75	16QAM1/2	13.61	14.48	17.08	33.08	35.44
3662.50	16QAM1/2	13.23	13.59	16.42	32.42	35.44
2673.25	16QAM1/2	14.75	14.35	17.56	33.56	35.44

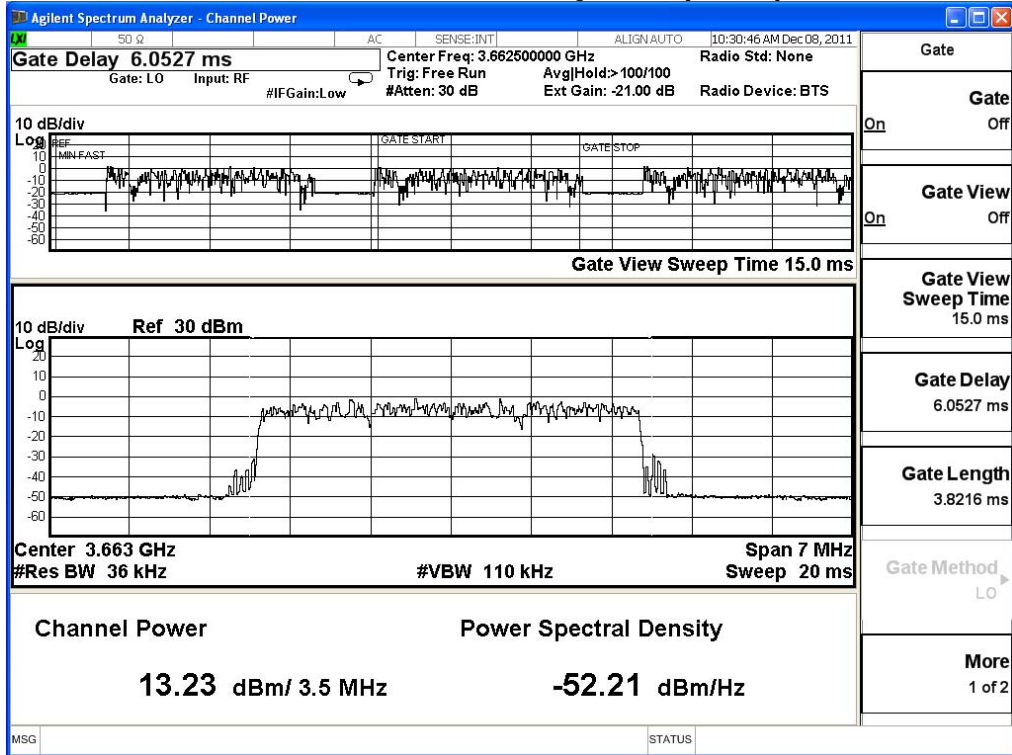
Maximum Output Power = Output Power (ANT 0 + ANT 1)

E.I.R.P = Maximum Output Power + Antenna Gain

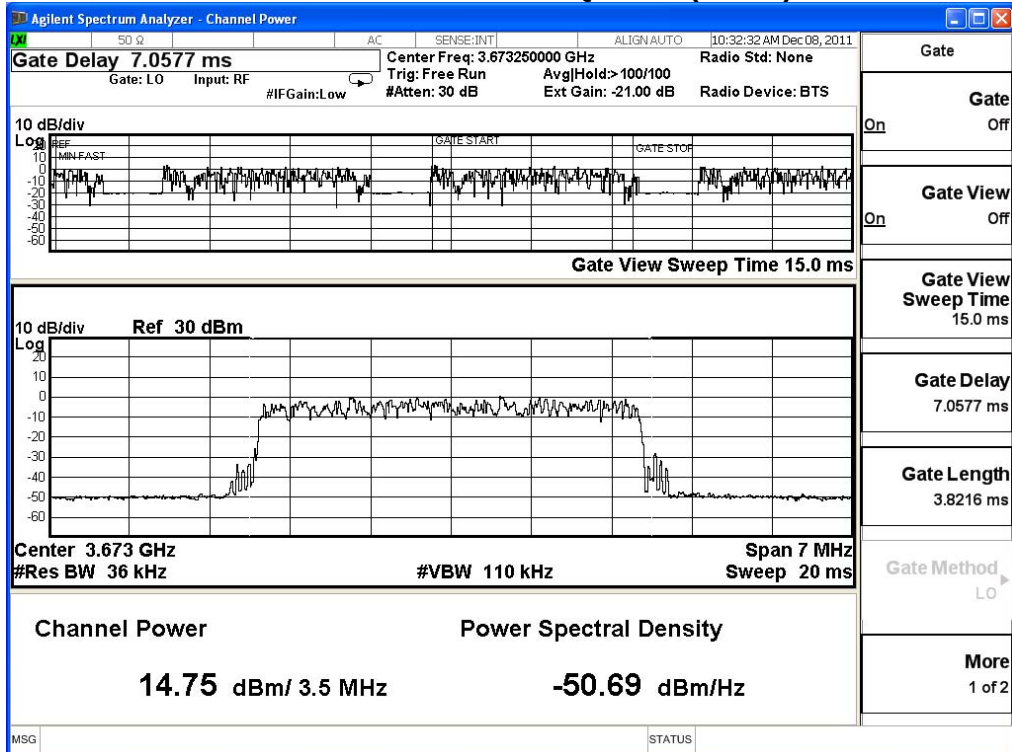
3.5MHz_3651.75MHz_16QAM1/2 (ANT 0)

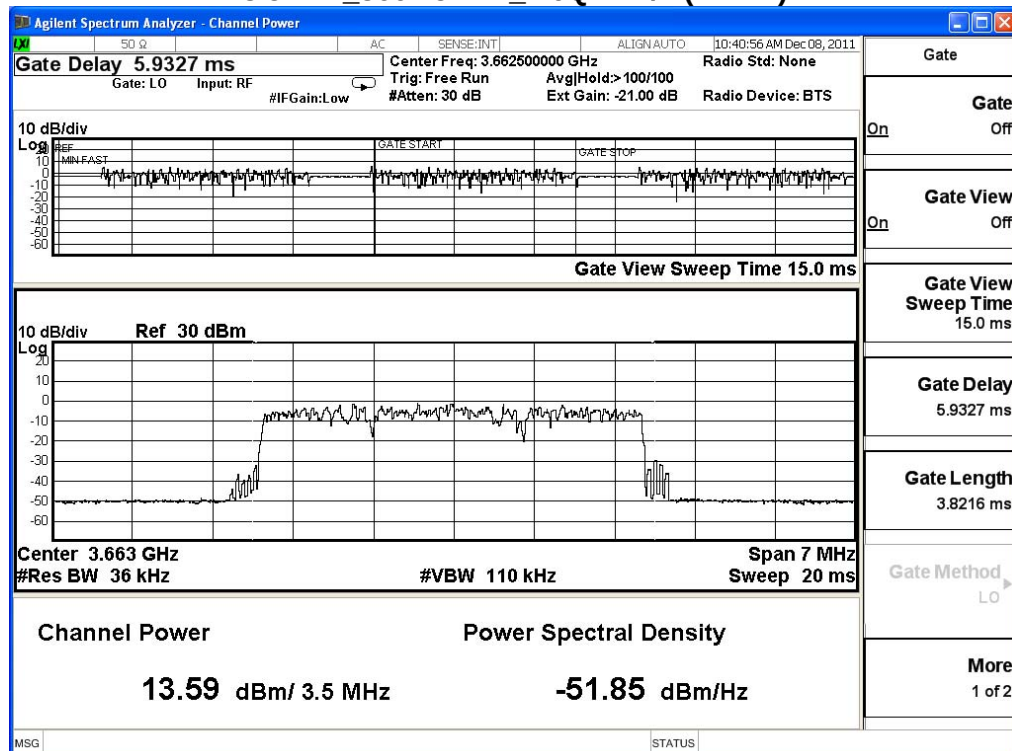
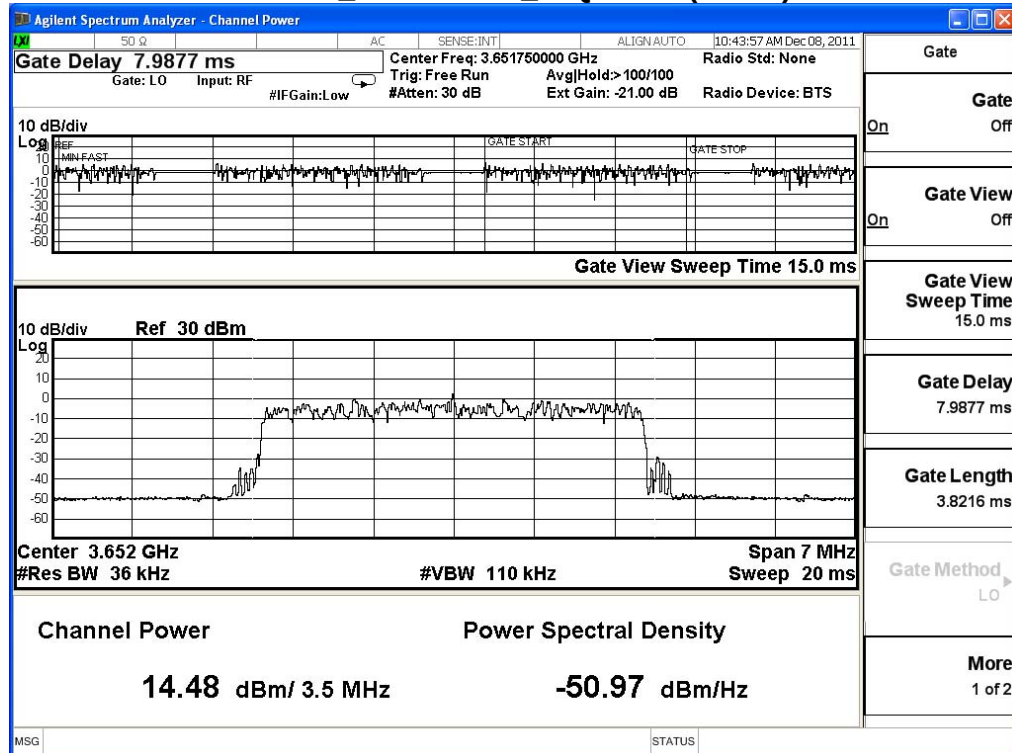


3.5MHz_3662.5MHz_ 16QAM1/2 (ANT 0)

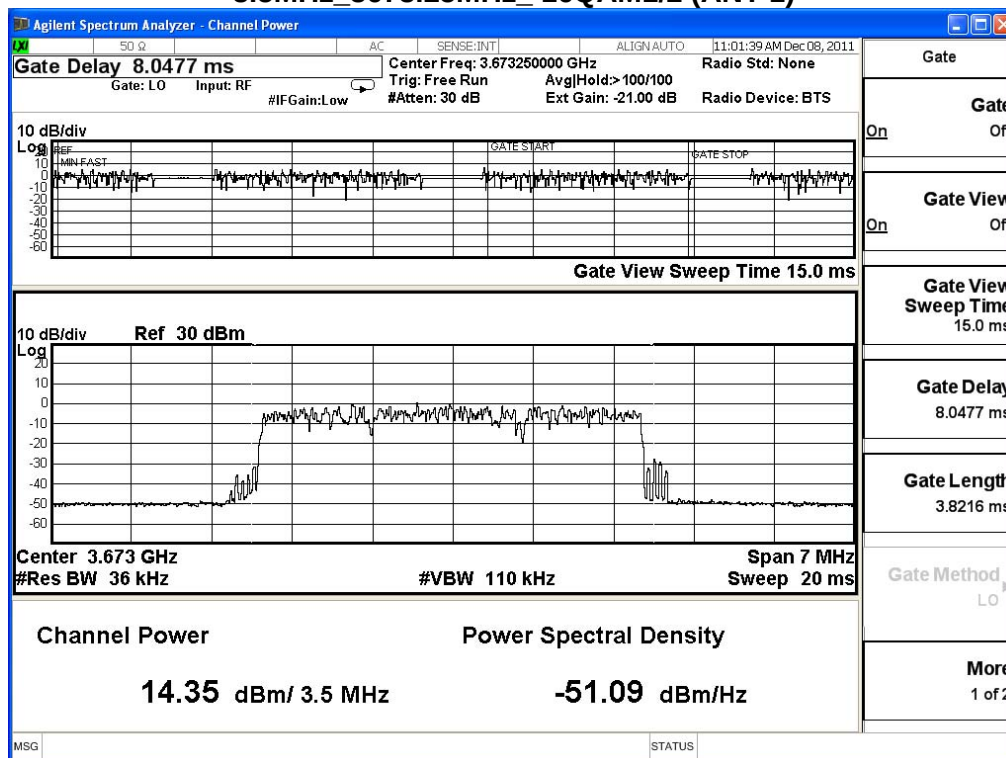


3.5MHz_3673.25MHz_16QAM1/2 (ANT 0)





3.5MHz_3673.25MHz_16QAM1/2 (ANT 1)



Product	CBS 3.65GHz		
Test Item	Maximum EIRP		
Test Mode	Mode 3: Transmit (3.5MHz BW_64QAM2/3)		
Date of Test	2011/12/11	Test Site	SR7

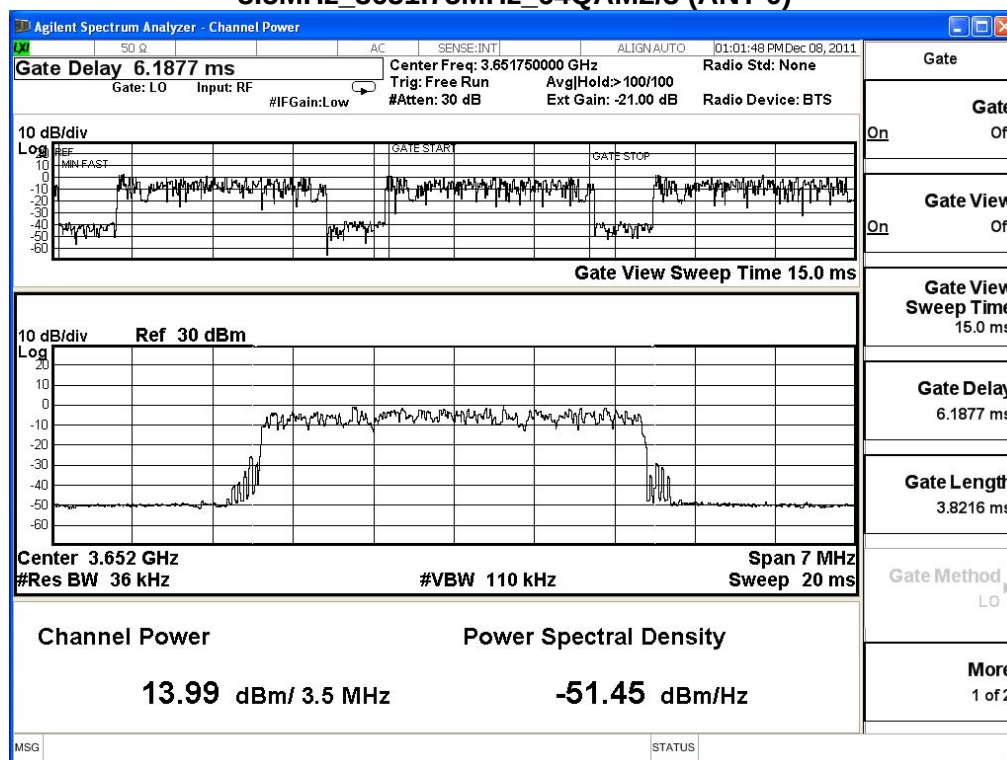
3.5MHz Bandwidth, Antenna Gain: 16dBi

Frequency (MHz)	Modulation	Output Power (dBm/3.5MHz)		Maximum Output Power (dBm/3.5MHz)	EIRP (dBm/3.5MHz)	Limit (dBm/3.5MHz)
		ANT 0	ANT1			
3651.75	64QAM2/3	13.99	14.81	17.43	33.43	35.44
3662.50	64QAM2/3	13.74	14.16	16.97	32.97	35.44
2673.25	64QAM2/3	15.35	14.30	17.87	33.87	35.44

Maximum Output Power = Output Power (ANT 0 + ANT 1)

E.I.R.P = Maximum Output Power + Antenna Gain

3.5MHz_3651.75MHz_64QAM2/3 (ANT 0)



Agilent Spectrum Analyzer - Channel Power

50 Ω AC SENSE:INT ALIGN: AUTO 12:58:35 PM Dec 08, 2011

Gate Delay 4.9277 ms

Gate: LO Input: RF #IF Gain: Low Center Freq: 3.662500000 GHz Trig: Free Run Avg/Hold: > 100/100 Radio Std: None
#Atten: 30 dB Ext Gain: -21.00 dB Radio Device: BTS

10 dB/div Log

REF MIN-FAST GATE START GATE STOP

Gate View Sweep Time 15.0 ms

10 dB/div Ref 30 dBm

Log

Center 3.663 GHz Span 7 MHz
#Res BW 36 kHz #VBW 110 kHz Sweep 20 ms

Channel Power Power Spectral Density

13.74 dBm/ 3.5 MHz -51.70 dBm/Hz

Gate On Off

Gate View On Off

Gate View Sweep Time 15.0 ms

Gate Delay 4.9277 ms

Gate Length 3.8216 ms

Gate Method LO

More 1 of 2

MSG STATUS

Agilent Spectrum Analyzer - Channel Power

50 Ω AC SENSE:INT ALIGN: AUTO 12:54:38 PM Dec 08, 2011

Gate Delay 7.0727 ms
 Gate: LO Input: RF #IF Gain: Low
 Center Freq: 3.673250000 GHz
 Trig: Free Run Avg/Hold: > 100/100
 #Atten: 30 dB Ext Gain: -21.00 dB Radio Device: BTS

10 dB/div
 Log REF MIN FAST

 Gate View Sweep Time 15.0 ms

10 dB/div Ref 30 dBm
 Log

 Center 3.673 GHz Span 7 MHz
 #Res BW 36 kHz #VBW 110 kHz Sweep 20 ms

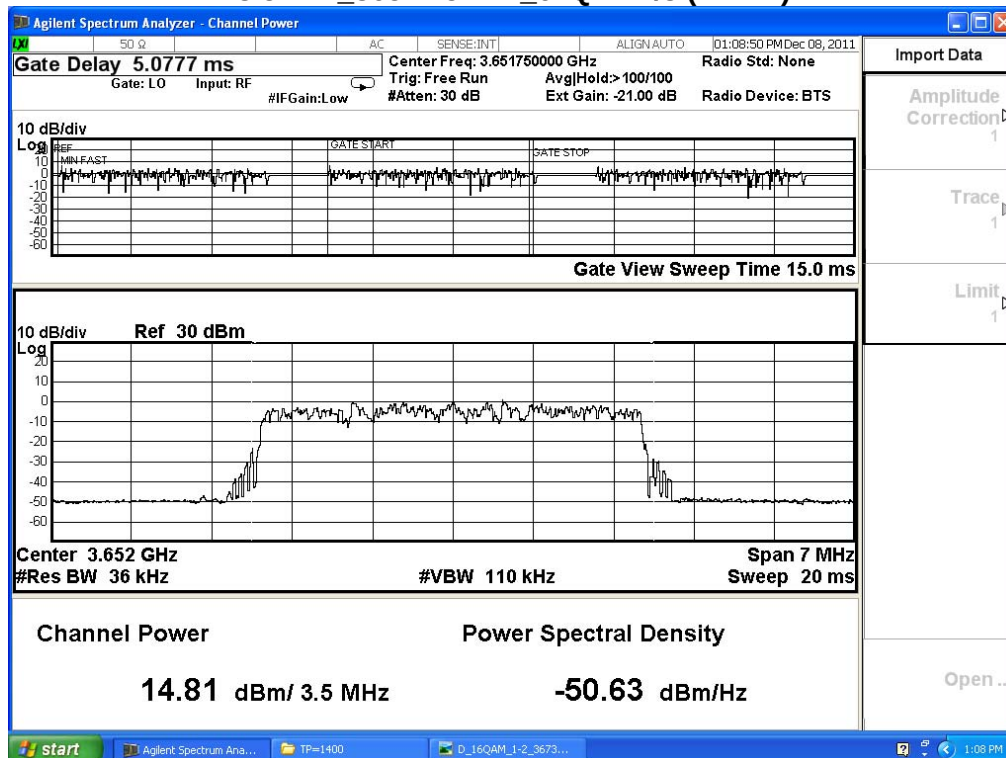
Channel Power
 15.35 dBm/ 3.5 MHz

Power Spectral Density
 -50.10 dBm/Hz

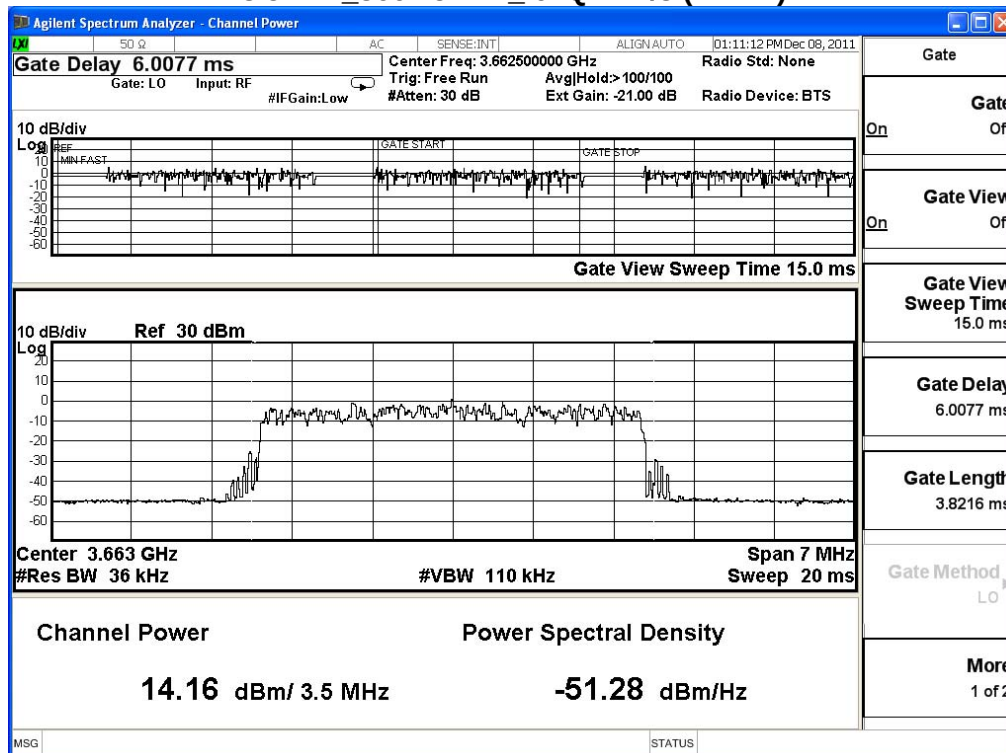
MSG STATUS

Gate
 On
 Gate View
 On
 Gate View Sweep Time
 15.0 ms
 Gate Delay
 7.0727 ms
 Gate Length
 3.8216 ms
 Gate Method
 LO
 More
 1 of 2

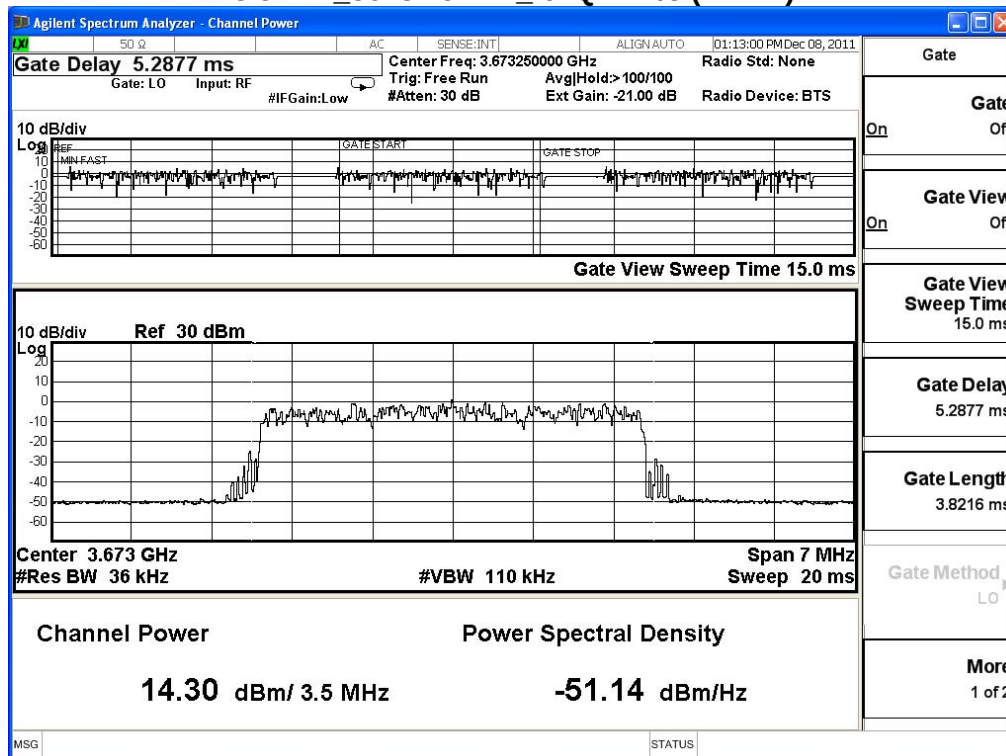
3.5MHz_3651.75MHz_64QAM2/3 (ANT 1)



3.5MHz_3662.5MHz_64QAM2/3 (ANT 1)



3.5MHz_3673.25MHz_64QAM2/3 (ANT 1)



Product	CBS 3.65GHz		
Test Item	Maximum EIRP		
Test Mode	Mode 4: Transmit (5MHz BW_QPSK3/4)		
Date of Test	2011/12/11	Test Site	SR7

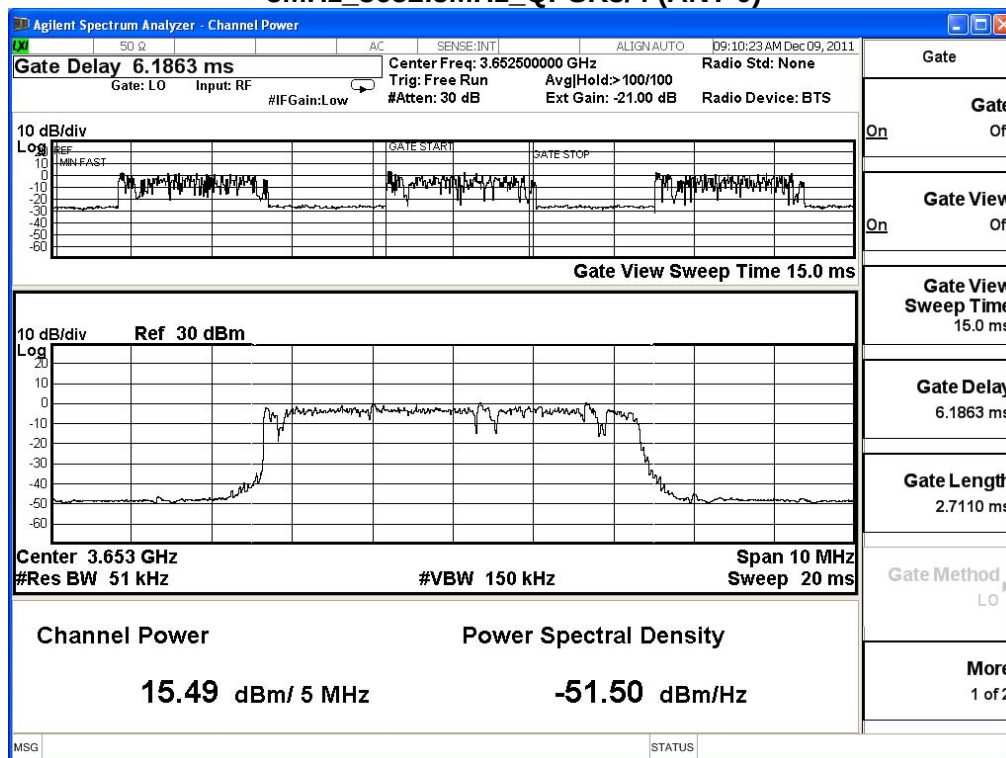
5MHz Bandwidth, Antenna Gain: 16dBi

Frequency (MHz)	Modulation	Output Power (dBm/5MHz)		Maximum Output Power (dBm/5MHz)	EIRP (dBm/5MHz)	Limit (dBm/5MHz)
		ANT 0	ANT 1			
3652.5	QPSK3/4	15.49	17.25	19.47	35.47	36.99
3662.5	QPSK3/4	15.99	16.43	19.23	35.23	36.99
3672.5	QPSK3/4	17.24	16.49	19.89	35.89	36.99

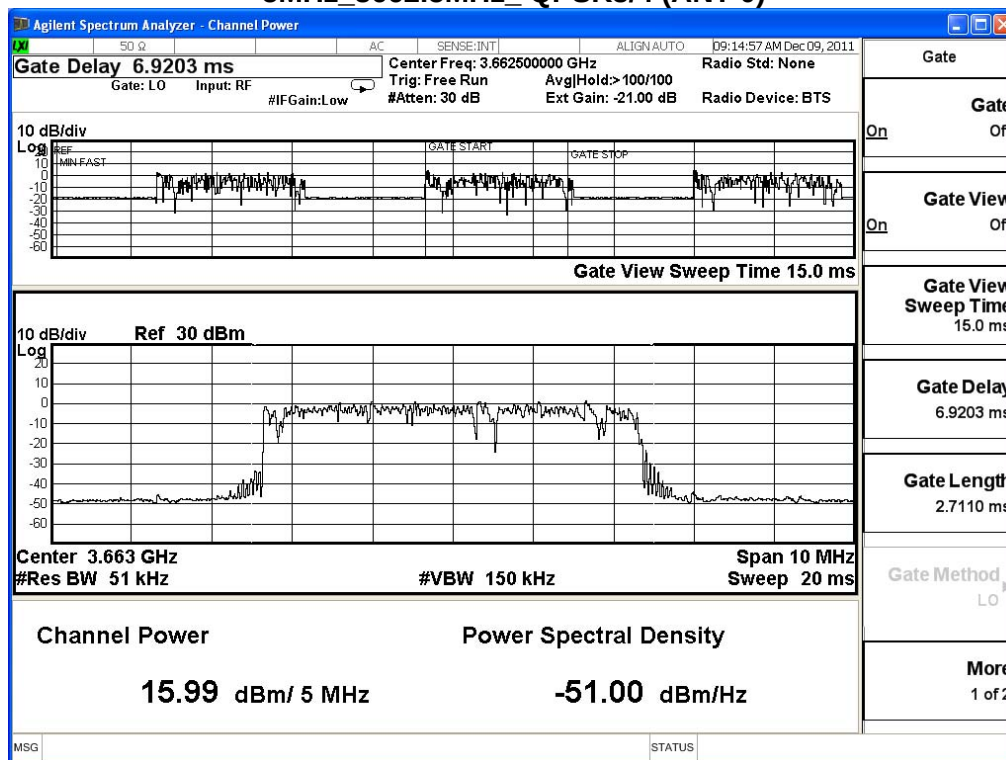
Maximum Output Power = Output Power (ANT 0 + ANT 1)

E.I.R.P = Maximum Output Power + Antenna Gain

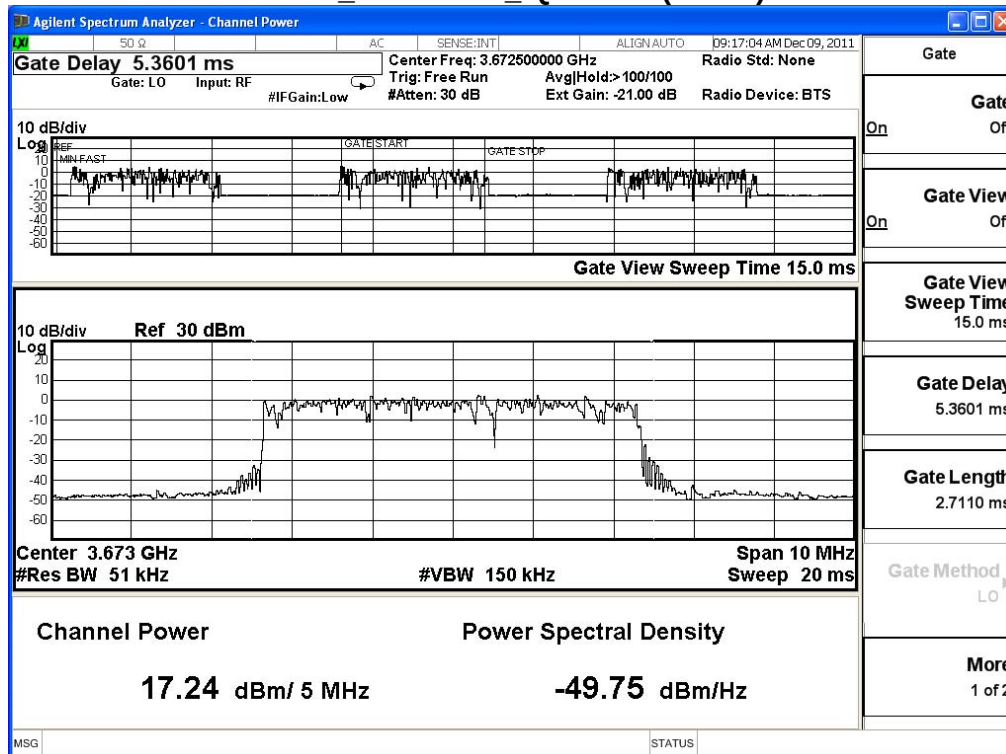
5MHz_3652.5MHz_QPSK3/4 (ANT 0)



5MHz_3662.5MHz_QPSK3/4 (ANT 0)



5MHz_3672.5MHz_QPSK3/4 (ANT 0)



Agilent Spectrum Analyzer - Channel Power

50 Ω AC SENSE:INT ALIGN: AUTO 09:22:31 AM Dec 09, 2011

Gate Delay 6.7569 ms
 Gate: LO Input: RF #IF Gain: Low
 Center Freq: 3.652500000 GHz Trig: Free Run Avg Hold: > 100/100
 #Atten: 30 dB Ext Gain: -21.00 dB Radio Device: BTS

10 dB/div
 Log

Gate View Sweep Time 15.0 ms

10 dB/div Ref 30 dBm
 Log

Center 3.653 GHz Span 10 MHz
 #Res BW 51 kHz #VBW 150 kHz Sweep 20 ms

Channel Power
 17.25 dBm/ 5 MHz

Power Spectral Density
 -49.74 dBm/Hz

Gate
 On
 Gate View
 On
 Gate View
 Sweep Time
 15.0 ms
 Gate Delay
 6.7569 ms
 Gate Length
 2.7110 ms
 Gate Method
 LO
 More
 1 of 2

Agilent Spectrum Analyzer - Channel Power

50 Ω AC SENSE:INT ALIGN: AUTO 09:28:06 AM Dec 09, 2011

Gate Delay 6.2053 ms
 Gate: LO Input: RF #IFGain:Low
 Center Freq: 3.662500000 GHz Trig: Free Run Avg/Hold: > 100/100
 #Atten: 30 dB Ext Gain: -21.00 dB Radio Std: None Radio Device: BTS

10 dB/div Log

REF MIN FAST

GATE START GATE STOP

Gate View Sweep Time 15.0 ms

10 dB/div Ref 30 dBm

Log

Center 3.663 GHz Span 10 MHz
 #Res BW 51 kHz #VBW 150 kHz Sweep 20 ms

Channel Power

16.43 dBm/ 5 MHz

Power Spectral Density

-50.56 dBm/Hz

MSG STATUS

Gate

On

Gate View

On

Gate View Sweep Time

15.0 ms

Gate Delay

6.2053 ms

Gate Length

2.7110 ms

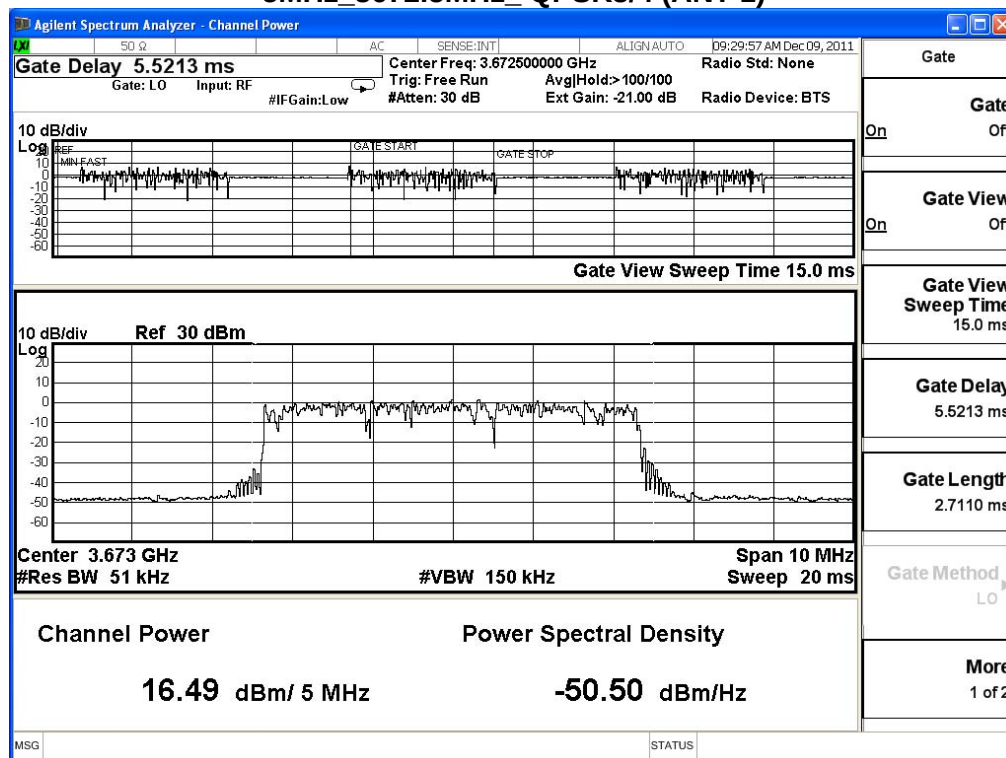
Gate Method

LO

More

1 of 2

5MHz_3672.5MHz_QPSK3/4 (ANT 1)

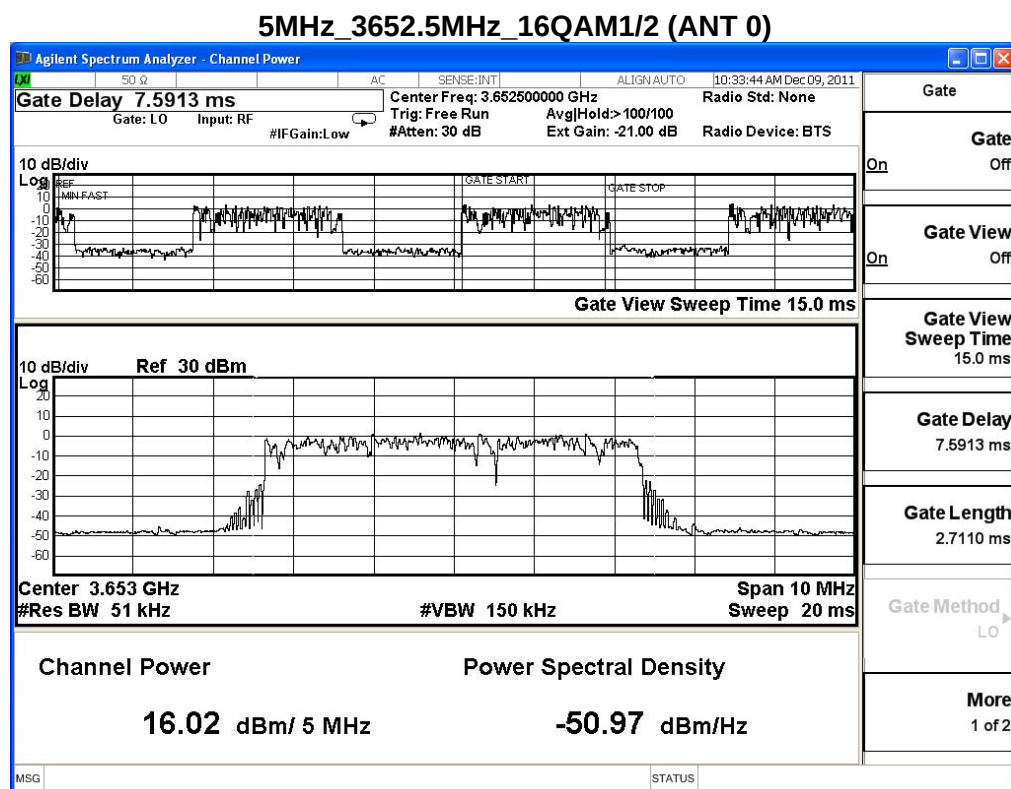


Product	CBS 3.65GHz		
Test Item	Maximum EIRP		
Test Mode	Mode 5: Transmit (5MHz BW_16QAM1/2)		
Date of Test	2011/12/11	Test Site	SR7

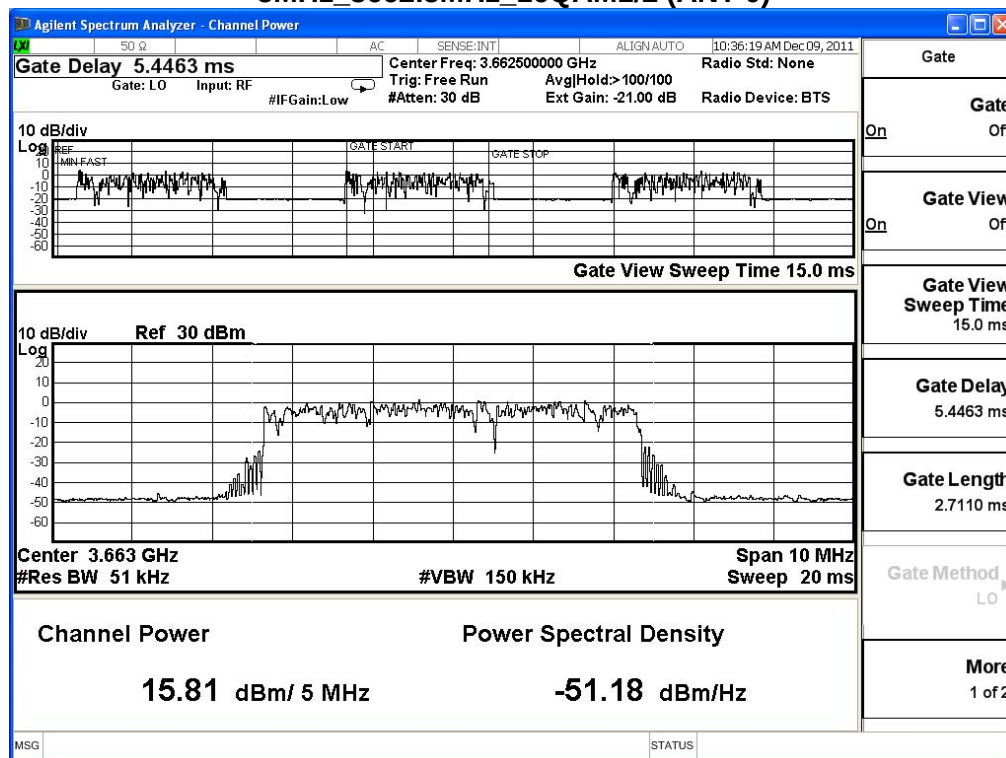
5MHz Bandwidth, Antenna Gain: 16dBi

Frequency (MHz)	Modulation	Output Power (dBm/5MHz)		Maximum Output Power (dBm/5MHz)	EIRP (dBm/5MHz)	Limit (dBm/5MHz)
		ANT 0	ANT1			
3652.5	16QAM1/2	16.02	17.09	19.60	35.60	36.99
3662.5	16QAM1/2	15.81	16.59	19.23	35.23	36.99
3672.5	16QAM1/2	17.16	16.76	19.97	35.97	36.99

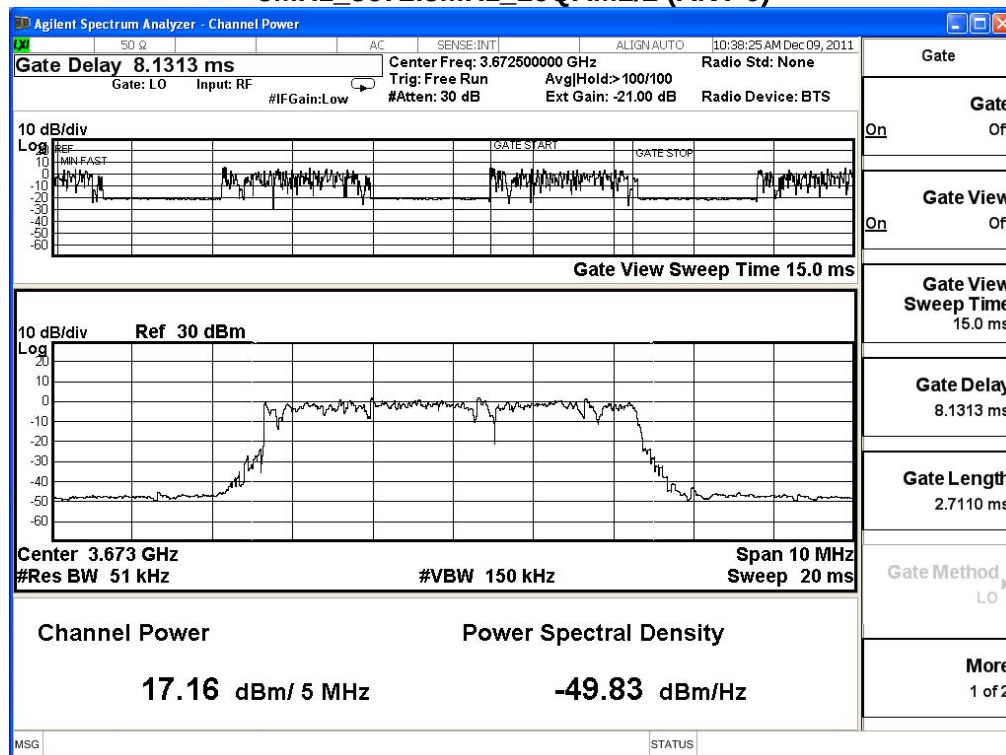
Maximum Output Power = Output Power (ANT 0 + ANT 1)

$$E.I.R.P = \text{Maximum Output Power} + \text{Antenna Gain}$$


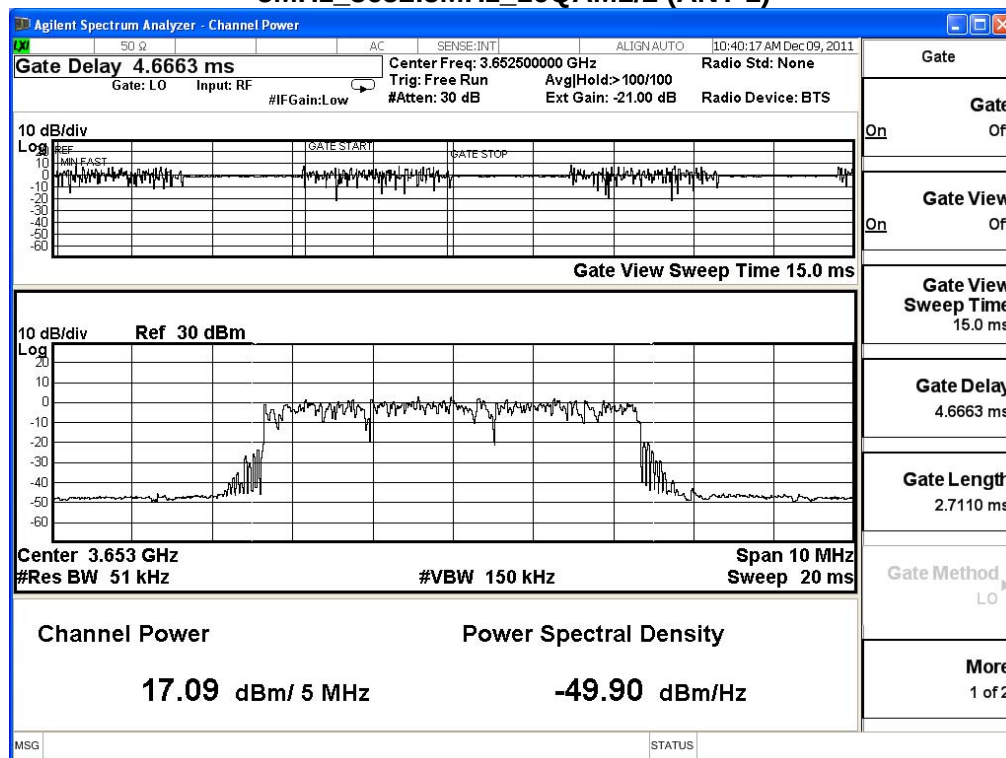
5MHz_3662.5MHz_16QAM1/2 (ANT 0)



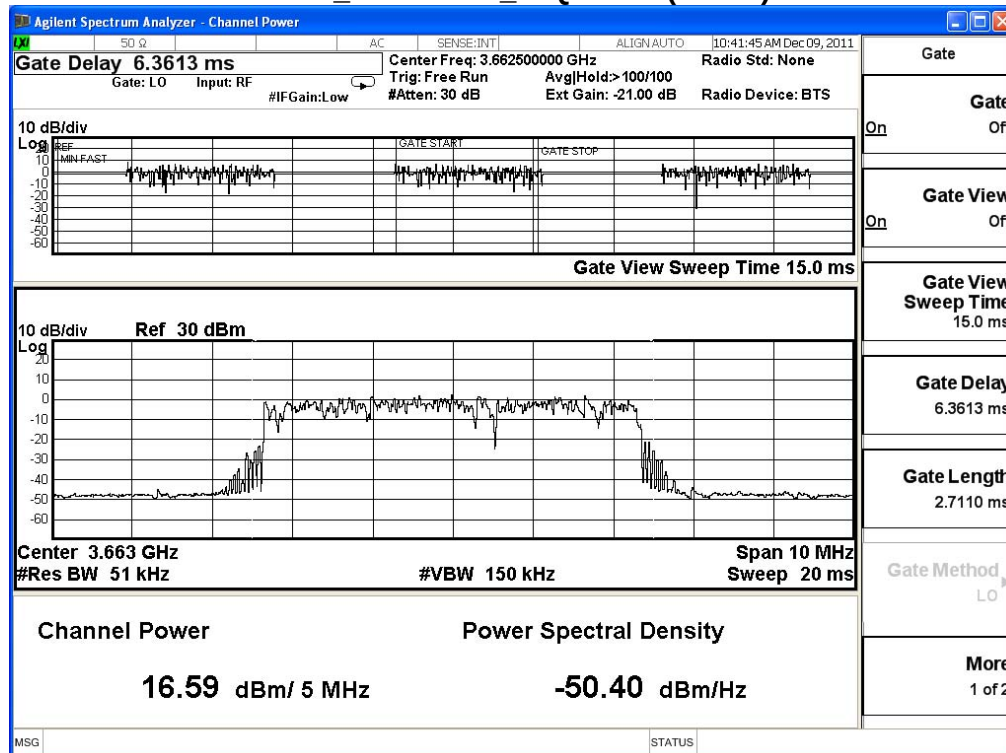
5MHz_3672.5MHz_16QAM1/2 (ANT 0)



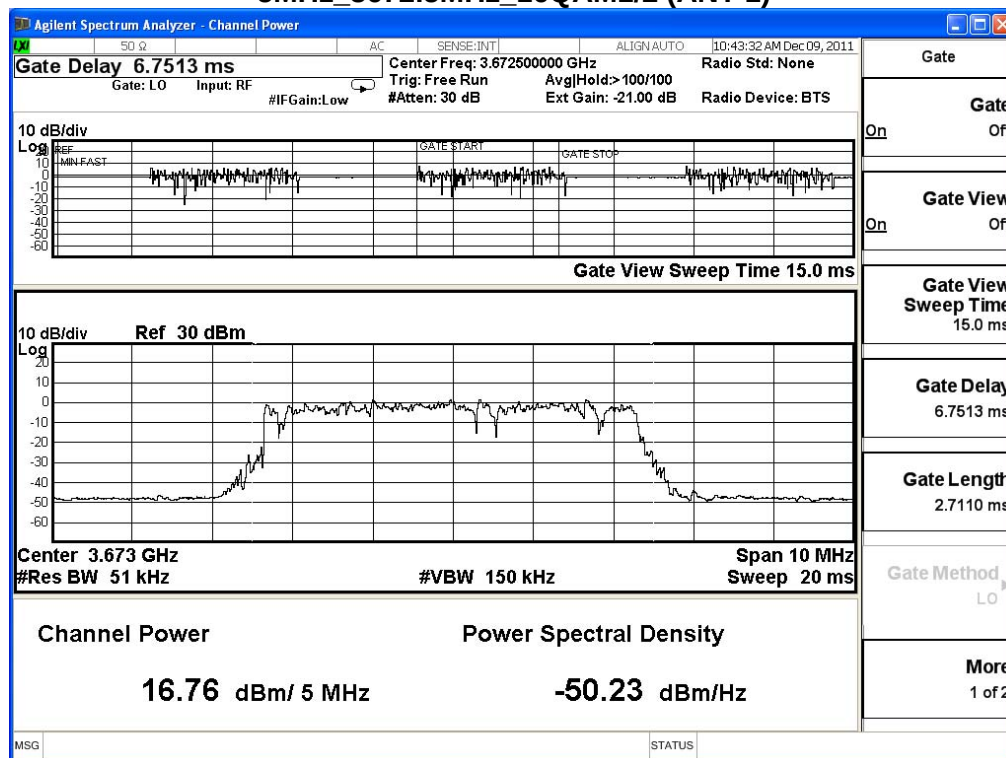
5MHz_3652.5MHz_16QAM1/2 (ANT 1)



5MHz_3662.5MHz_16QAM1/2 (ANT 1)



5MHz_3672.5MHz_16QAM1/2 (ANT 1)



Product	CBS 3.65GHz		
Test Item	Maximum EIRP		
Test Mode	Mode 6: Transmit (5MHz BW_64QAM2/3)		
Date of Test	2011/12/11	Test Site	SR7

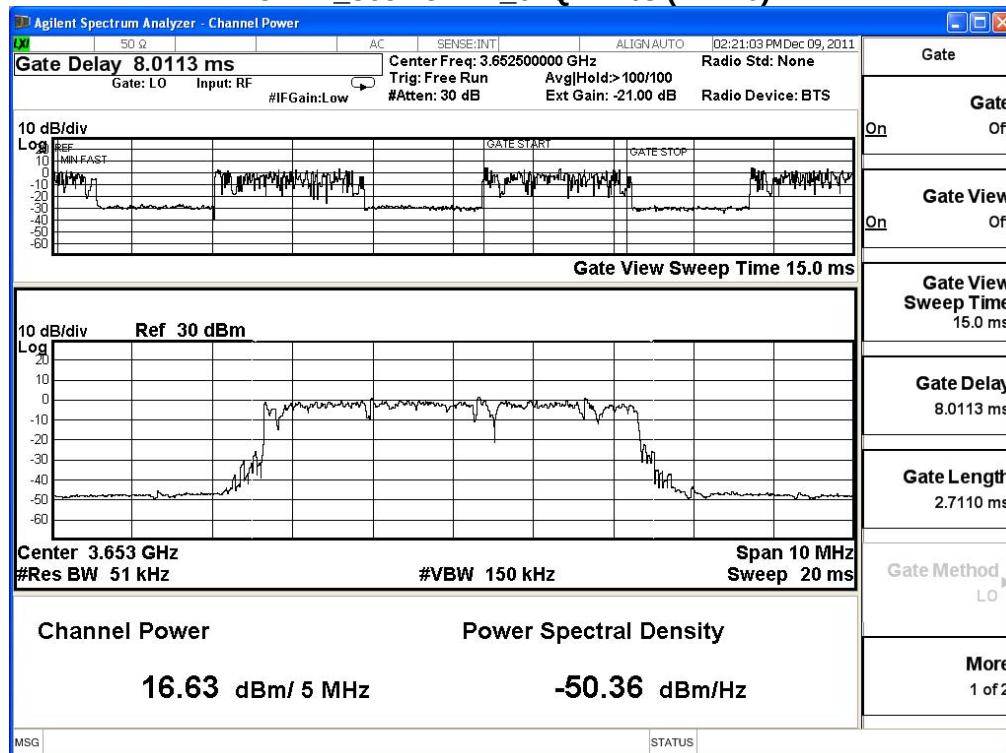
5MHz Bandwidth, Antenna Gain: 16dBi

Frequency (MHz)	Modulation	Output Power (dBm/5MHz)		Maximum Output Power (dBm/5MHz)	EIRP (dBm/5MHz)	Limit (dBm/5MHz)
		ANT 0	ANT1			
3652.5	64QAM2/3	16.63	16.90	19.78	35.78	36.99
3662.5	64QAM2/3	16.08	16.96	19.55	35.55	36.99
3672.5	64QAM2/3	17.03	16.99	20.02	36.02	36.99

Maximum Output Power = Output Power (ANT 0 + ANT 1)

E.I.R.P = Maximum Output Power + Antenna Gain

5MHz_3652.5MHz_64QAM2/3 (ANT 0)



Agilent Spectrum Analyzer - Channel Power

50 Ω AC SENSE:INT ALIGN:AUTO 02:16:28 PM Dec 09, 2011

Gate Delay 3.2563 ms
 Gate: LO Input: RF #IF Gain: Low
 Center Freq: 3.662500000 GHz Trig: Free Run Avg/Hold: > 100/100
 #Atten: 30 dB Ext Gain: -21.00 dB Radio Device: BTS

10 dB/div
 Log

Gate View Sweep Time 15.0 ms

10 dB/div Ref 30 dBm

Center 3.663 GHz Span 10 MHz
 #Res BW 51 kHz #VBW 150 kHz Sweep 20 ms

Channel Power
16.08 dBm/ 5 MHz

Power Spectral Density
-50.91 dBm/Hz

MSG STATUS

Gate
 On
 Gate View
 On
 Gate View
 Sweep Time
 15.0 ms
 Gate Delay
 3.2563 ms
 Gate Length
 2.7110 ms
 Gate Method
 LO

More
 1 of 2

Agilent Spectrum Analyzer - Channel Power

50 Ω AC SENSE:INT ALIGN: AUTO 02:14:55 PM Dec 09, 2011

Gate Delay 6.3313 ms
 Gate: LO Input: RF #IFGain: Low
 Center Freq: 3.672500000 GHz Triger: Free Run AvgHld: > 100/100
 #Atten: 30 dB Ext Gain: -21.00 dB Radio Std: None Radio Device: BTS

10 dB/div Log

MIN FAST REF GATE START GATE STOP

Gate View Sweep Time 15.0 ms

10 dB/div Ref 30 dBm

Log

Center 3.673 GHz Span 10 MHz
 #Res BW 51 kHz #VBW 150 kHz Sweep 20 ms

Channel Power
17.03 dBm/ 5 MHz

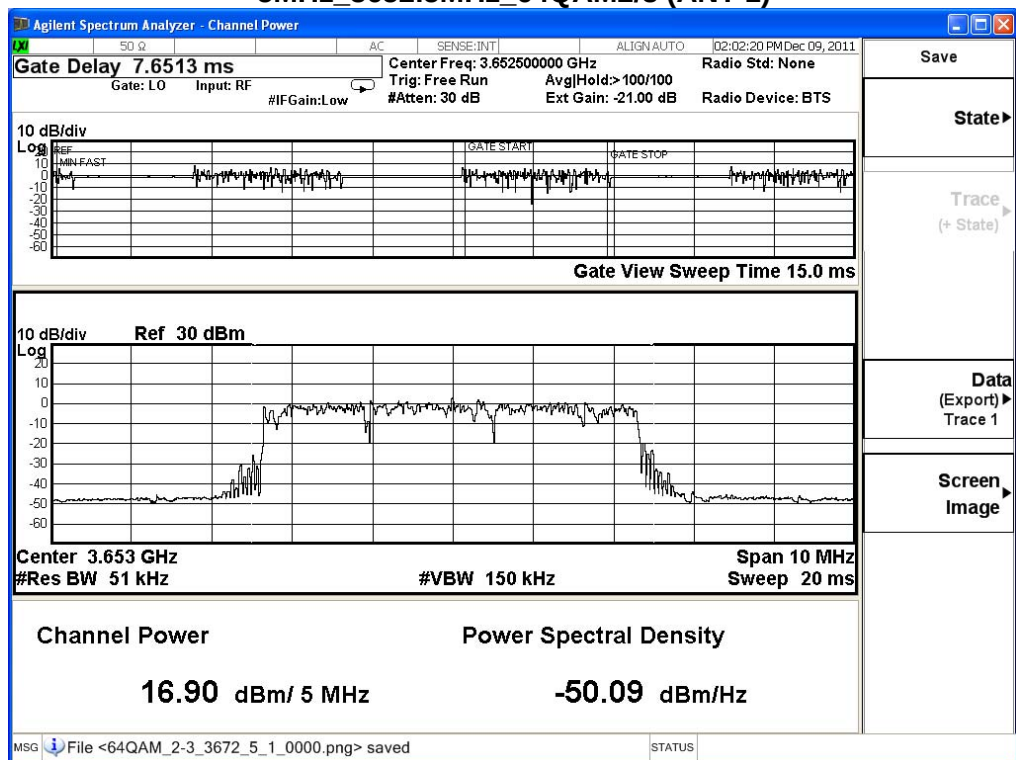
Power Spectral Density
-49.96 dBm/Hz

MSG STATUS

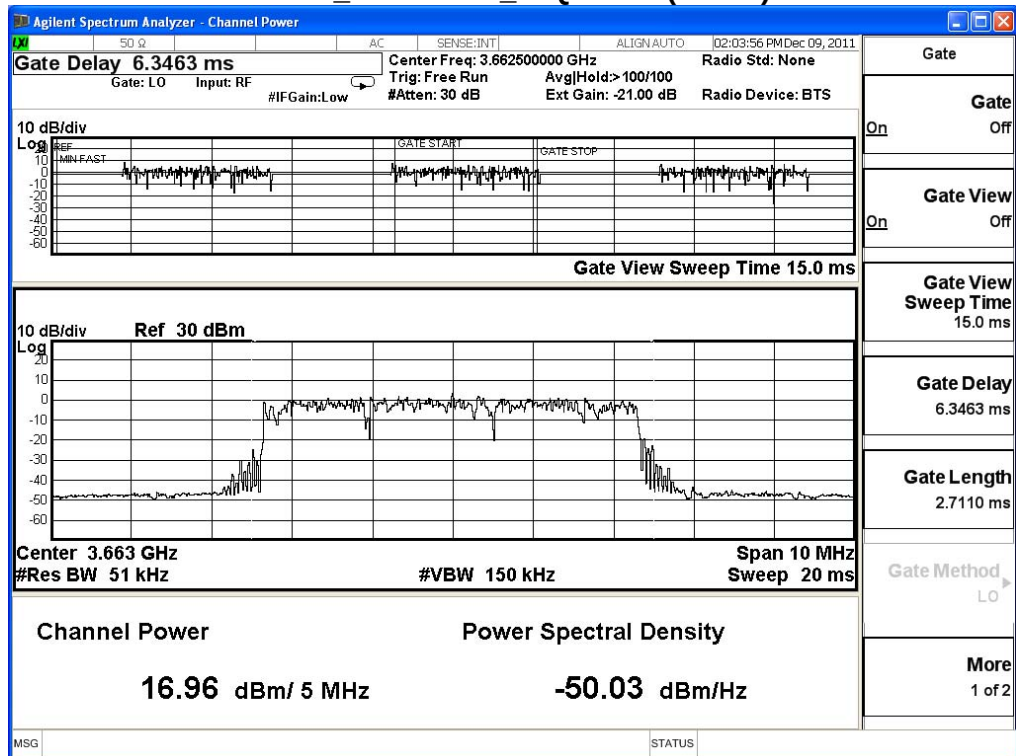
Gate
 On
 Gate View
 On
 Gate View Sweep Time
 15.0 ms
 Gate Delay
 6.3313 ms
 Gate Length
 2.7110 ms
 Gate Method
 LO

More
 1 of 2

5MHz_3652.5MHz_64QAM2/3 (ANT 1)



5MHz_3662.5MHz_64QAM2/3 (ANT 1)



5MHz_3672.5MHz_64QAM2/3 (ANT 1)

