



Test Report

Product Name	Full HD Video Wireless Transmitter Module
Model No	RF31100M
FCC ID.	YG7RF31100M

Applicant	ZINWELL CORPORATION
Address	7F 512, Yuan Shan Road, Chung Ho City, 235, Taipei Hsien, Taiwan

Date of Receipt	Sep. 09, 2010
Issue Date	Oct. 11, 2010
Report No.	109188R-RFUSP42V01
Report Version	V1.0

The test results relate only to the samples tested.

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Test Report Certification

Issue Date: Oct. 11, 2010

Report No.: 109188R-RFUSP42V01



Accredited by NIST (NVLAP)
NVLAP Lab Code: 200533-0

Product Name	Full HD Video Wireless Transmitter Module	
Applicant	ZINWELL CORPORATION	
Address	7F 512, Yuan Shan Road, Chung Ho City, 235, Taipei Hsien, Taiwan	
Manufacturer	ZINWELL CORPORATION	
Model No.	RF31100M	
EUT Rated Voltage	DC 5V/1.5A, 7.5W	
EUT Test Voltage	DC 5V/1.5A, 7.5W	
Trade Name	ZINWELL®	
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2009 ANSI C63.4: 2003	 NVLAP Lab Code: 200533-0
Test Result	Complied	

The test results relate only to the samples tested.

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Tested By : Sabrina Tsai
(Engineer / Sabrina Tsai)



Approved By : [Signature]
(Manager / Vincent Lin)

Testing Laboratory
0914

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Full HD Video Wireless Transmitter Module
Trade Name	ZINWELL [®]
Model No.	RF31100M
FCC ID.	YG7RF31100M
Frequency Range	5755-5795MHz
Number of Channels	2
Data Speed	63Mbps
Channel separation	40MHz
Type of Modulation	OFDM
Antenna Type	Chip Antenna
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto

Antenna List

Manufacturer	Model No.	Peak Gain
ACX	AT3216-B5R5HAA	2dBi for 5GHz

Note: The antenna of EUT is conform to FCC 15.203

40MHz (5G Band) Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency
Channel 1:	5755 MHz	Channel 2:	5795 MHz

Note:

1. This device is a Full HD Video Wireless Transmitter Module with a built-in 5GHz transceiver.
2. Regarding to the operation frequency, the lowest and highest frequency are selected to perform the test.
3. The device is applied for modular approval.
4. These tests are conducted on a sample for the purpose of demonstrating compliance of transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.

1.2. Operational Description

The EUT is a Full HD Video Wireless Transmitter Module with a built-in 5GHz transceiver, together with Full HD Video Wireless Receiver Module. It has a SIMO design of two channel and one slow rate output wireless channel, which generates an upstream channel for data content transmissions, the antenna are use two Chip (2TX, 1RX).

The data modulation is OFDM, using two antennas to support 2(Transmit) * 1(Receive) technology. The device only provided one transmitting speed 63Mbps in 40MHz bandwidth mode.

Presents the ultimate solution for converting any High Definition (HD) system, including Full HD, into a wireless one. These add-on modules enable wireless A/V applications that fit easily into the living room and eliminate traditional A/V wiring. The perfect HD video and audio quality and the high robustness are unmatched by any other wireless technology and present a true alternative to cable. The WHDI system transmits uncompressed video and audio streams wirelessly and thus simplifies and eliminates system issues, such as: lip-sync, large buffers and other burdens like retransmissions or error propagation.

The device can transmit audio and video signal to associate equipment, device will receive signal form associate equipment when associate equipment request change operation frequency.

The AMN2120 WHDI™ baseband transmitter chip is the heart of the RF31100M WHDI transmitter module. The AMN2120 includes an internal microcontroller for controlling the physical level.

The AMN2120 is based on MIMO technology transmitting through up to two output channels. Four digital-to-analog converters and one analog-to-digital converter are embedded within the chip.

The input frequency is multiplied and then used as an internal system clock.

The AMN3110 is a fully integrated direct conversion MIMO transmitter specifically designed for WHDI applications using OFDM modulation in single-band 4.9 GHz to 5.9 GHz. The device consists of:

- Two Complete Downlink Direct Conversion Transmitters.
- One Uplink Receiver.
- Integrated Synthesizer.
- Internal DC Servo Loops.
- RSSI.
- IQ Detector.
- RF and Baseband Control Interface.
- Power Management Unit.
- 3-Wire SPI Interface.

To complete the RF front-end solution, the AMN3110 uses external PA, RF switches, RF Band Pass Filter and Low Pass Filter, RF BALUNs and a few passive components.

This device is slave equipment, another information please refer to users manual.

Test Mode:	Mode 1: Transmit -40BW
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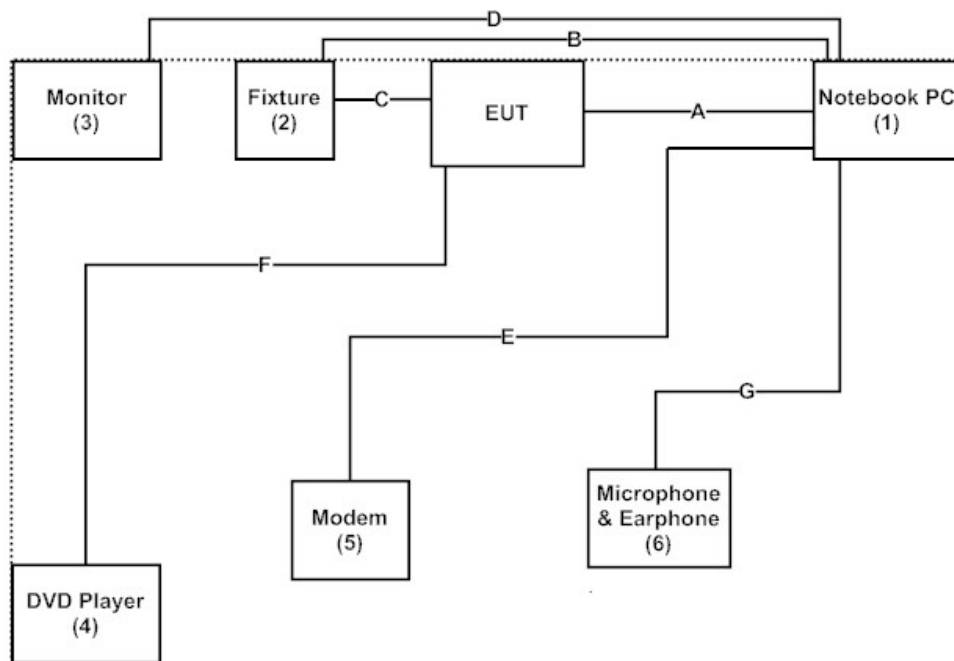
1.3. Tested System Details

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

Product	Manufacturer	Model No.	Serial No.	Power Cord
1 Notebook PC	DELL	PPT	N/A	Shielded, 1.8m
2 Fixture	Zinwell	N/A	N/A	N/A
3 Monitor	LG	W2261VT	907YHED07299	Shielded, 1.8m
4 DVD PLAYER	PHILIPS	DVD951	KT010046000748	Non-Shielded, 1.5m
5 Modem	ACEEX	DM-1414	0102027553	Non-Shielded, 1.5m
6 Microphone & Earphone	PCHOME	N/A	N/A	N/A

Signal Cable Type	Signal cable Description
A USB Cable	Shielded, 1m
B USB to RS-232 Cable	Shielded, 1m
C Signal Cable	Non-Shielded, 0.5m
D VGA Cable	Shielded, 1.8m, with one ferrite core bonded.
E Modem Cable	Shielded, 1.5m
F HDMI Cable	Shielded, 1m
G Microphone & Earphone Cable	Non-Shielded, 1m

1.4. Configuration of Tested System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4.
- (2) Execute the UART program on the EUT.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Press “OK” to start the continuous Transmitter.
- (5) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from

Quietek Corporation's Web Site : <http://www.quietek.com/tw/ctg/cts/accreditations.htm>

The address and introduction of Quietek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>

Site Description: File on
 Federal Communications Commission
 FCC Engineering Laboratory
 7435 Oakland Mills Road
 Columbia, MD 21046
 Registration Number: 92195



Accreditation on NVLAP
 NVLAP Lab Code: 200533-0



Site Name: Quietek Corporation
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 E-Mail : service@quietek.com

FCC Accreditation Number: TW1014



2. Conducted Emission

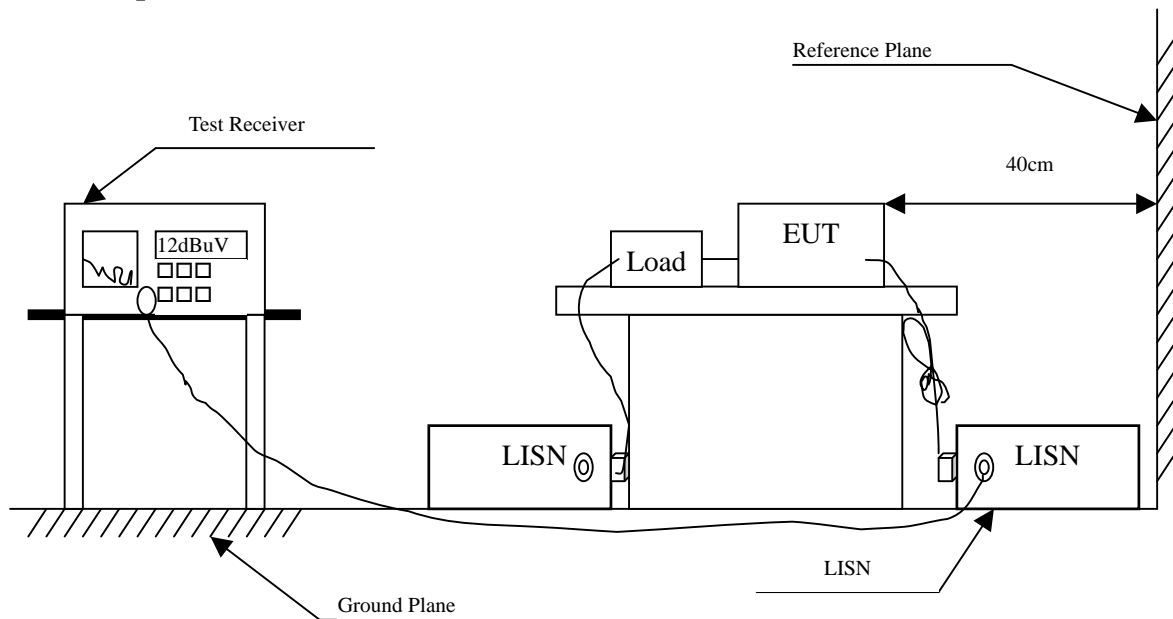
2.1. Test Equipment

The following test equipment are used during the conducted emission test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 2010	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2010	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2010	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2010	
5	No.1 Shielded Room			N/A	

Note: All instruments are calibrated every one year.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AVG
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : Full HD Video Wireless Transmitter Module
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 1: Transmit -40BW (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
Line 1					
Quasi-Peak					
0.185	9.719	41.330	51.049	-13.951	65.000
0.232	9.685	24.450	34.135	-29.522	63.657
1.998	9.680	26.600	36.280	-19.720	56.000
4.119	9.700	30.620	40.320	-15.680	56.000
9.502	9.815	26.490	36.305	-23.695	60.000
15.002	9.990	32.380	42.370	-17.630	60.000
Average					
0.185	9.719	29.510	39.229	-15.771	55.000
0.232	9.685	5.670	15.355	-38.302	53.657
1.998	9.680	23.860	33.540	-12.460	46.000
4.119	9.700	22.500	32.200	-13.800	46.000
9.502	9.815	22.320	32.135	-17.865	50.000
15.002	9.990	28.700	38.690	-11.310	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Full HD Video Wireless Transmitter Module
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 1: Transmit -40BW (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
Line 2					
Quasi-Peak					
0.162	9.751	32.580	42.331	-23.326	65.657
0.244	9.689	33.990	43.679	-19.635	63.314
2.056	9.680	26.270	35.950	-20.050	56.000
3.931	9.700	33.320	43.020	-12.980	56.000
9.252	9.820	25.450	35.270	-24.730	60.000
15.002	10.000	32.360	42.360	-17.640	60.000
Average					
0.162	9.751	3.920	13.671	-41.986	55.657
0.244	9.689	27.410	37.099	-16.215	53.314
2.056	9.680	23.100	32.780	-13.220	46.000
3.931	9.700	25.010	34.710	-11.290	46.000
9.252	9.820	21.210	31.030	-18.970	50.000
15.002	10.000	28.810	38.810	-11.190	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3. Peak Power Output

3.1. Test Equipment

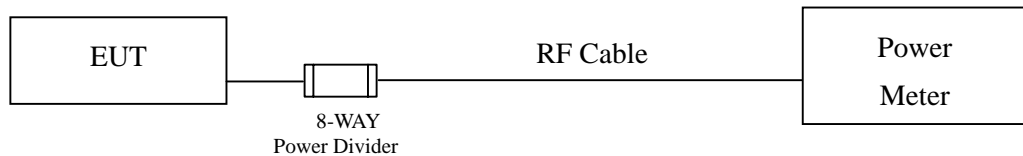
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2010
X	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2010
X	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2010

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.
3. The power combiner is used for measure 11n mode.

3.2. Test Setup

Conducted Measurement



3.3. Limits

The maximum peak power shall be less 1 Watt.

3.4. Test Procedure

The EUT was tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

3.5. Uncertainty

± 1.27 dB

3.6. Test Result of Peak Power Output

Product : Full HD Video Wireless Transmitter Module
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit -40BW

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
01	5755	21.46	<30dBm	Pass
02	5795	21.77	<30dBm	Pass

Note: 1. Peak Power Output Value = Reading value on peak power meter + cable loss
2. Using 8-Way Power Divider (factor =10dB), to compensate in the power meter.

4. Radiated Emission

4.1. Test Equipment

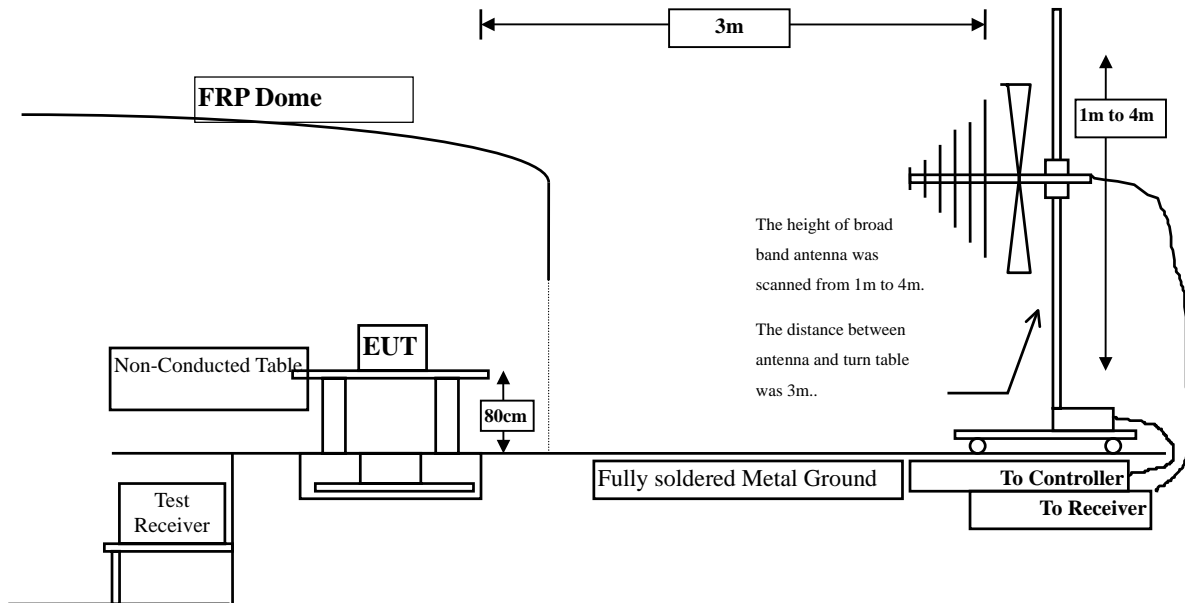
The following test equipment are used during the radiated emission test:

Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
<input checked="" type="checkbox"/> Site # 3	X Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2010
	X Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2010
	X Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2010
	X Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2010
	X Pre-Amplifier	HP	8449B/3008A01123	July., 2010
	X Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2010
	X Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2010
	X Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2010
	X Controller	Quietek	QTK-CONTROLLER/ CTRL3	N/A
	X Coaxial Switch	Anritsu	MP59B/6200265729	N/A

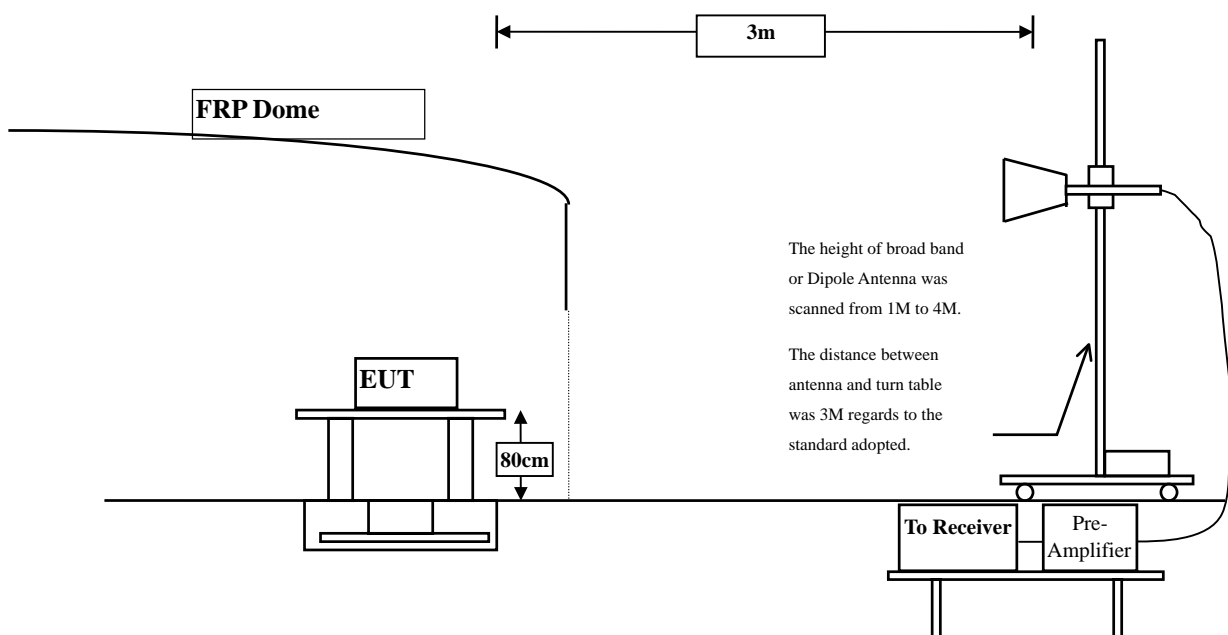
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
 2. The test instruments marked with "X" are used to measure the final test results.

4.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The measurement frequency range from 30MHz - 10th Harmonic of fundamental was investigated.

4.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

4.6. Test Result of Radiated Emission

Product : Full HD Video Wireless Transmitter Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit -40BW (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
11510.000	17.124	39.910	57.034	-16.966	74.000
Average Detector:					
11510.000	17.124	34.220	51.344	-2.656	54.000
Vertical					
Peak Detector:					
11510.000	17.850	39.780	57.630	-16.370	74.000
Average Detector:					
11510.000	17.850	34.750	52.600	-1.400	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
7. The average measurement was not performed when the peak measured data under the limit of average detection.
8. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Full HD Video Wireless Transmitter Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit -40BW (5795 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
11590.000	16.701	38.260	54.960	-19.040	74.000
Average Detector:					
11590.000	16.701	31.260	47.960	-6.040	54.000
Vertical					
Peak Detector:					
11590.000	17.567	38.210	55.776	-18.224	74.000
Average Detector:					
11590.000	17.567	31.250	48.816	-5.184	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
7. The average measurement was not performed when the peak measured data under the limit of average detection.
8. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Full HD Video Wireless Transmitter Module
 Test Item : General Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit -40BW (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
159.980	-11.775	41.729	29.954	-13.546	43.500
231.760	-8.338	41.088	32.750	-13.250	46.000
439.340	-2.009	43.840	41.831	-4.169	46.000
542.160	3.011	41.324	44.335	-1.665	46.000
765.260	4.253	37.327	41.580	-4.420	46.000
800.180	5.141	36.093	41.234	-4.766	46.000
Vertical					
125.060	-4.046	43.116	39.070	-4.430	43.500
220.120	-8.840	47.611	38.771	-7.229	46.000
499.480	-0.852	36.560	35.708	-10.292	46.000
796.300	2.831	37.358	40.189	-5.811	46.000
967.020	8.071	34.512	42.583	-11.417	54.000
1000.000	4.329	47.264	51.593	-2.407	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
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7. The average measurement was not performed when the peak measured data under the limit of average detection.
8. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Full HD Video Wireless Transmitter Module
 Test Item : General Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit -40BW (5795MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
159.980	-11.775	46.086	34.311	-9.189	43.500
245.340	-6.346	40.310	33.964	-12.036	46.000
439.340	-2.009	43.789	41.780	-4.220	46.000
641.100	1.348	40.978	42.326	-3.674	46.000
800.180	5.141	36.635	41.776	-4.224	46.000
901.060	5.591	32.069	37.660	-8.340	46.000
Vertical					
235.640	-9.330	53.464	44.134	-1.866	46.000
439.340	-8.669	49.461	40.792	-5.208	46.000
499.480	-0.852	40.520	39.668	-6.332	46.000
796.300	2.831	37.993	40.824	-5.176	46.000
965.080	7.932	34.348	42.280	-11.720	54.000
998.060	4.176	47.091	51.267	-2.733	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
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6. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
7. The average measurement was not performed when the peak measured data under the limit of average detection.
8. The emission levels of other frequencies are very lower than the limit and not show in test report.

5. RF antenna conducted test

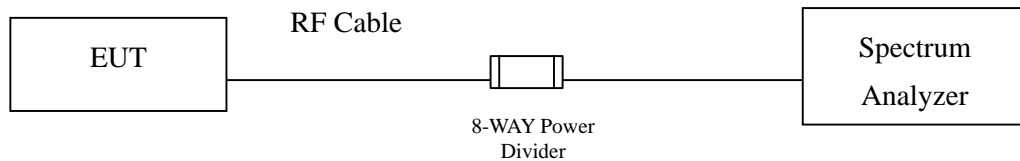
5.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2010
X	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2010
	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2010
X	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2010

- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
 2. The test instruments marked with “X” are used to measure the final test results.
 3. The power combiner is used for measure 11n mode.

5.2. Test Setup

RF antenna Conducted Measurement:



5.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.4. Test Procedure

The EUT was tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

5.5. Uncertainty

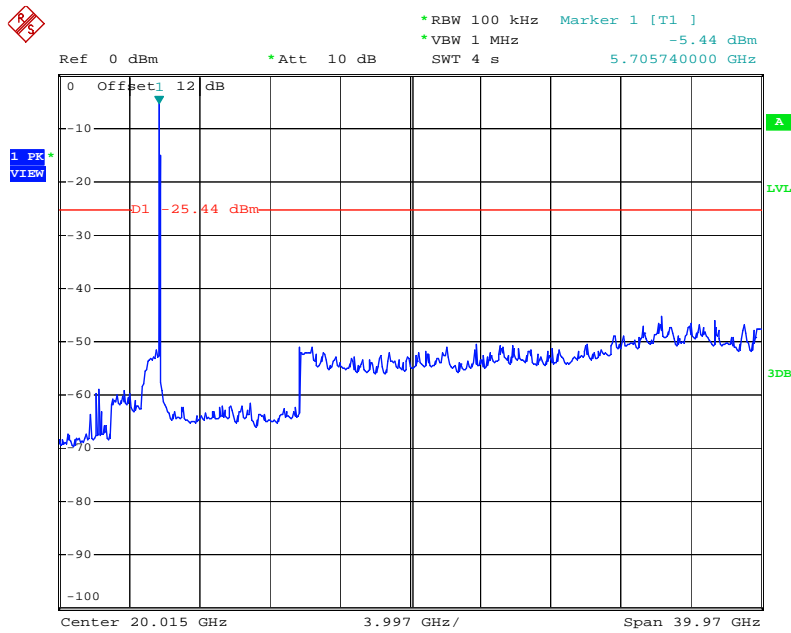
The measurement uncertainty

Conducted is defined as $\pm 1.27\text{dB}$

5.6. Test Result of RF antenna conducted test

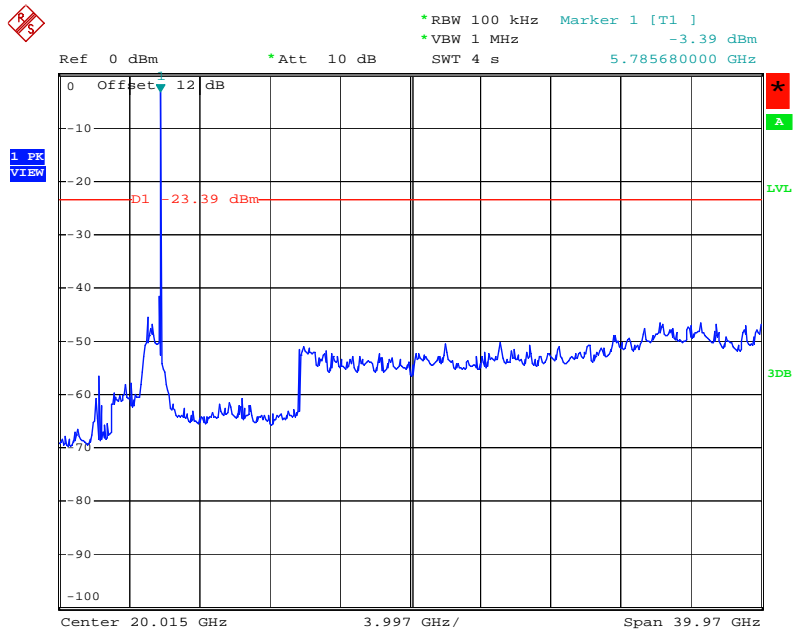
Product : Full HD Video Wireless Transmitter Module
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit -40BW

Channel 01 (5755MHz) 30MHz -40GHz



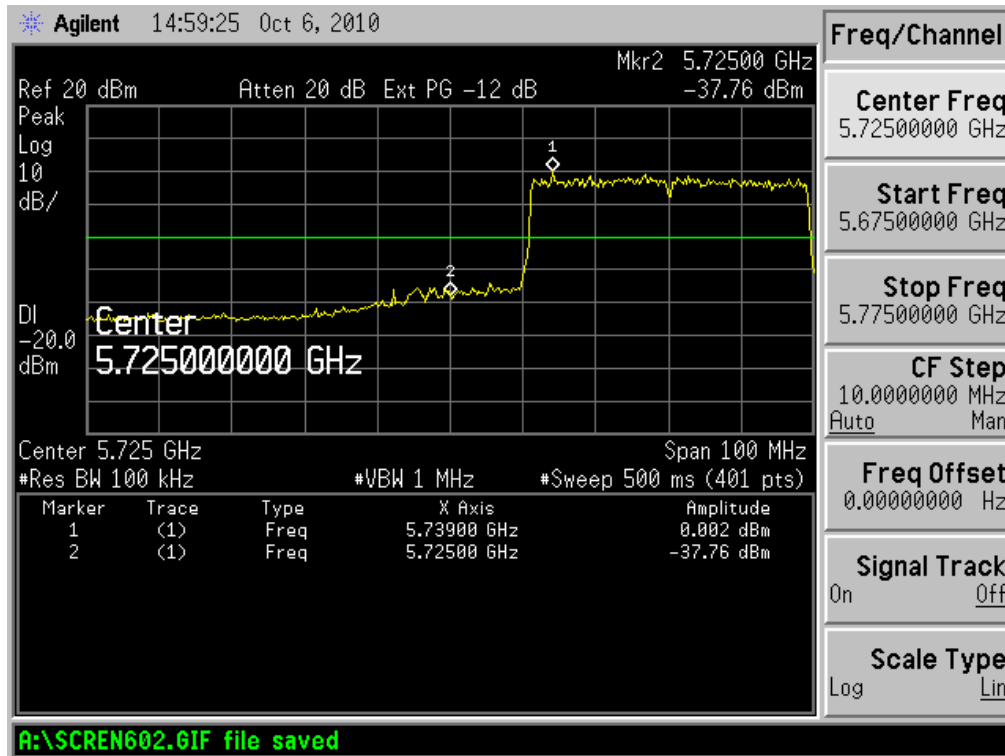
Date: 6.OCT.2010 16:47:15

Channel 02 (5795MHz) 30MHz -40GHz

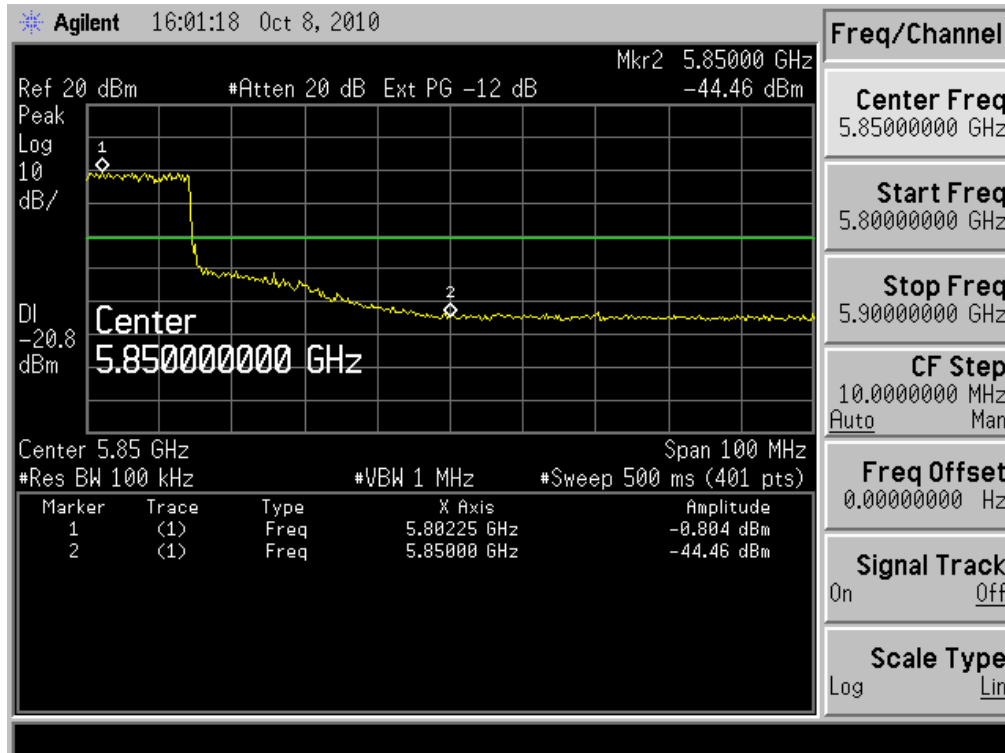


Date: 6.OCT.2010 16:52:20

Channel 01 (5755MHz) Band Edge



Channel 05 (5795MHz) Band Edge



6. Occupied Bandwidth

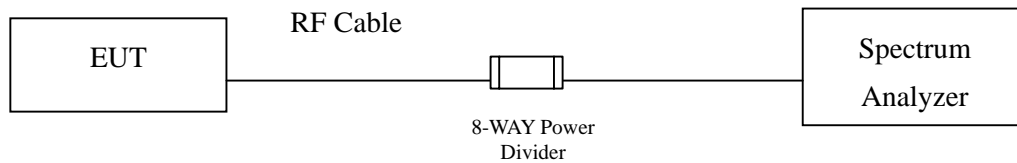
6.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2010
X	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2010
	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2010
X	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2010

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.
3. The power combiner is used for measure 11n mode.

6.2. Test Setup



6.3. Limits

The minimum bandwidth shall be at least 500 kHz.

6.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003; tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Span greater than RBW.

6.5. Uncertainty

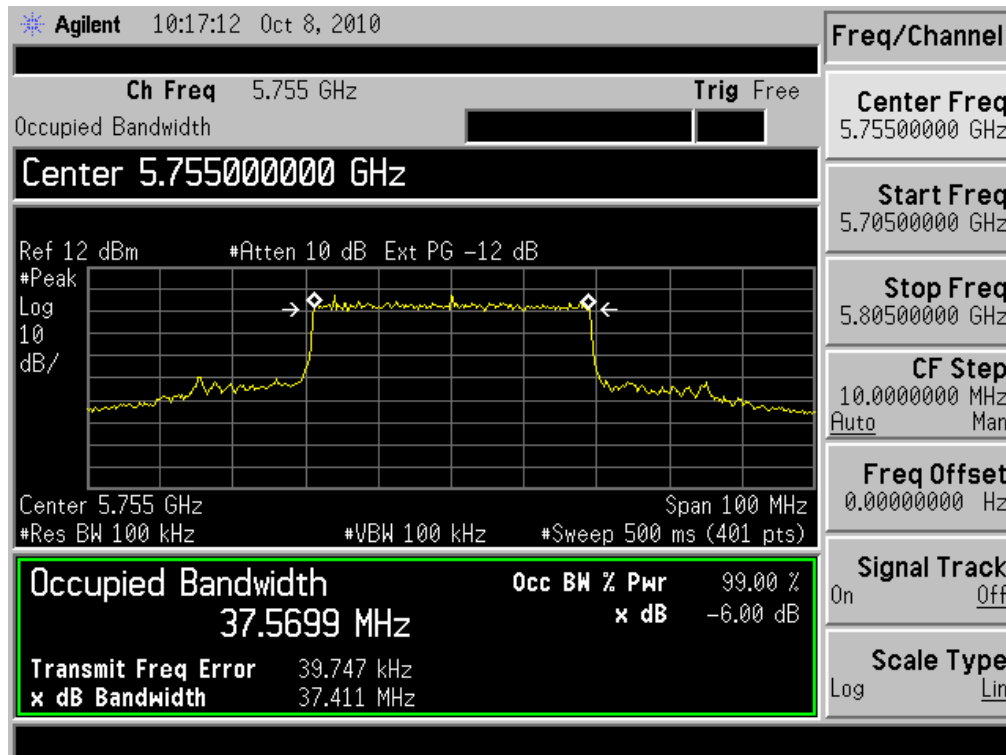
± 150Hz

6.6. Test Result of Occupied Bandwidth

Product : Full HD Video Wireless Transmitter Module
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit -40BW (5755MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	5755.00	37411	>500	Pass

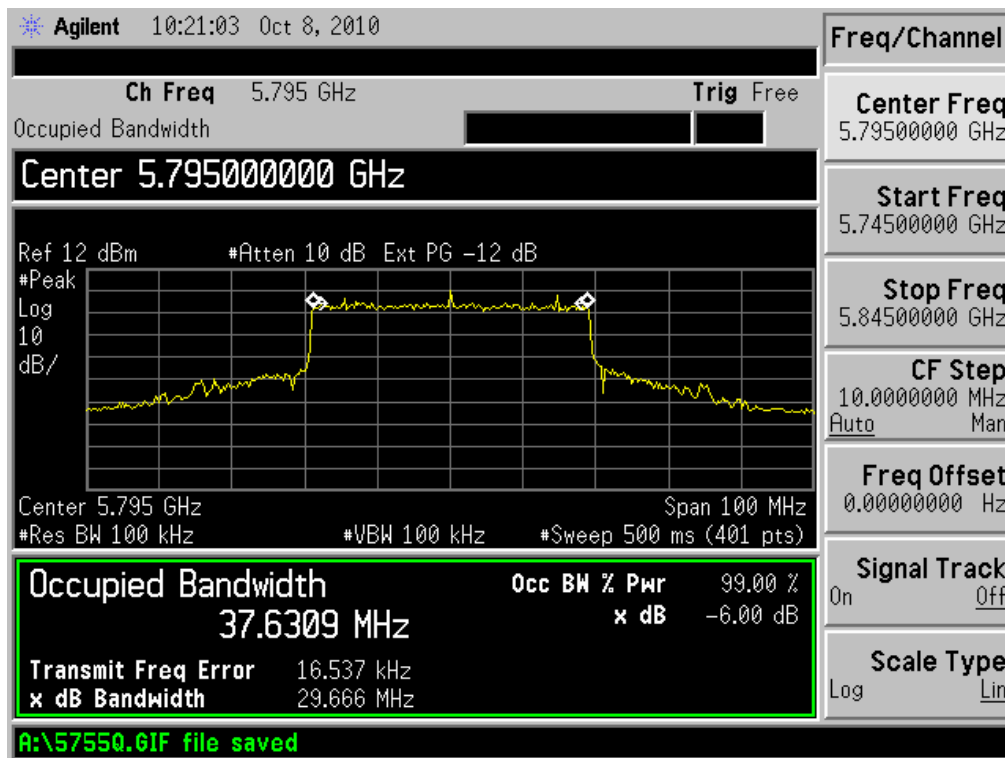
Figure Channel 01:



Product : Full HD Video Wireless Transmitter Module
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit -40BW (5795MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
02	5795.00	29666	>500	Pass

Figure Channel 02:



7. Power Density

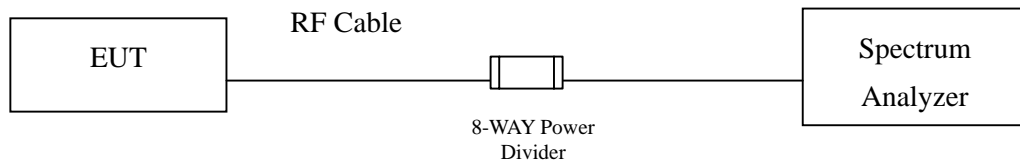
7.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2010
X	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2010
	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2010
X	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2010

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.
3. The power combiner is used for measure 11n mode.

7.2. Test Setup



7.3. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

7.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003; tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW= 3 kHz, VBW=10KHz, Sweep time=(SPAN/3KHz), detector=Peak detector

7.5. Uncertainty

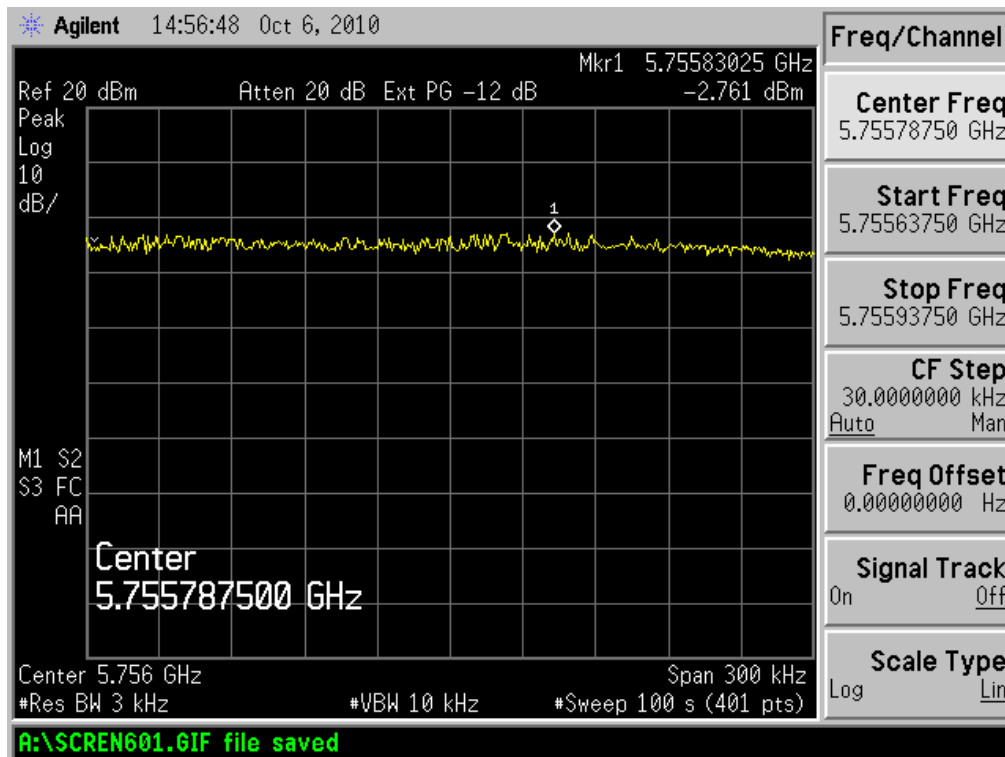
± 1.27 dB

7.6. Test Result of Power Density

Product : Full HD Video Wireless Transmitter Module
 Test Item : Power Density Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit -40BW (5755MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
01	5755.00	-2.761	< 8dBm	Pass

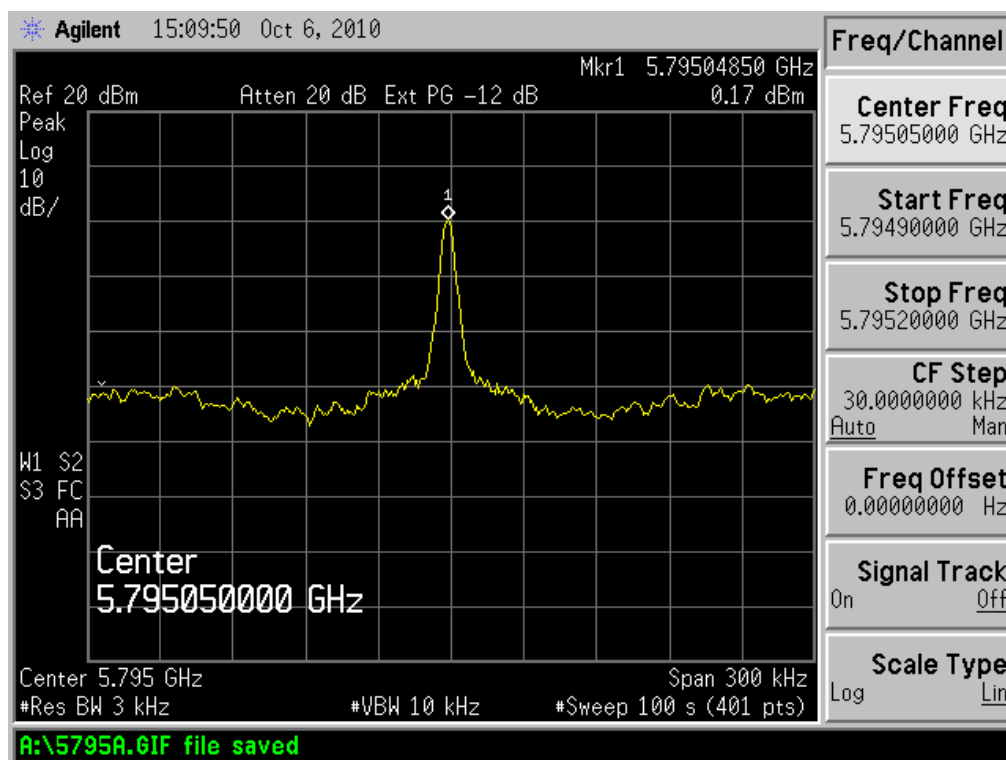
Figure Channel 01:



Product : Full HD Video Wireless Transmitter Module
 Test Item : Power Density Data
 Test Site : No.3OATS
 Test Mode : Mode 1: Transmit -40BW (5795MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
02	5795.000	0.170	< 8dBm	Pass

Figure Channel 02:



8. EMI Reduction Method During Compliance Testing

No modification was made during testing.

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs