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MEASUREMENT REPORT of WIFI module for Class II permissive change

Applicant: PEGATRON CORPORATION

EUT : WIFI module

Model No. : UPWL6024

FCC ID : VUIUPWL6024

Tested by:

Training Research Co., Ltd.

TEL: **886-2-26935155 FAX**: **886-2-26934440** No. 255, Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C.

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CERTIFICATION

We here by verify that:

The test data, data evaluation, test procedures and equipment configurations shown in this report were made mainly in accordance with the procedures given in ANSI C63.4 (2003) as a reference. All test were conducted by *Training Research Co., Ltd.*, 255 Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. Also, we attest to the accuracy of each.

We further submit that the energy emitted by the sample EUT tested as described in the report is **in compliance with** the technical requirements set forth in the FCC Rules Part 15 Subpart E Section 15.407.

Applicant: PEGATRON CORPORATION

Applicant Address: 5F, NO. 76, LIGONG ST., BEITOU DISTRICT,

TAIPEI CITY, Taiwan

FCC ID : VUIUPWL6024

Report No. : P5515110066

Test Date : July 18, 2011 ~ July 27, 2011

Prepared by:

Jack Tsai

Approved by:

Frank Tsai

Conditions of issue:

(1) This test report shall not be reproduced except in full, without written approval of TRC. And the test result contained within this report only relate to the sample submitted for testing.

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I. GENERAL

1.1 Introduction

The following measurement report is submitted on behalf of applicant in support that the certification in accordance with Part 2 Subpart J and Part 15 Subpart A, E of the Commission's Rules and Regulations.

1.2 Description of EUT

FCC ID : VUIUPWL6024

Product Name : WIFI module

Model Name : UPWL6024

Frequency Range : 5.150GHz ~ 5.250GHz, 5.725GHz ~ 5.825GHz

Operating Frequency: IEEE 802.11a/Draft 1.0 20M: 5.180GHz ~ 5.240GHz,

 $5.745GHz \sim 5.805GHz$

IEEE 802.11a Draft 1.0 40M: 5.190GHz ~ 5.230GHz,

5.755GHz ~ 5.795GHz

Channel Spacing: IEEE 802.11a/Draft 1.0 20M: 20MHz;

IEEE 802.11a Draft 1.0 40M: 40MHz

Support Channel: IEEE 802.11a/Draft 1.0 20M: 4Channels;

IEEE 802.11a Draft 1.0 40M: 2Channels

Modulation Skill : DBPSK, DQPSK, CCK, OFDM

Power Type : Powered by PCI Express interface of client's device

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1.3 Test method

- 1. Insert the EUT into the PCI Express interface of extend card of the test fixture.
- 2. Using the computer and software provided by the manufacturer to control EUT. The software is operated under the Windows to control the EUT in the mode of continuous transmission; the test is performed under the specific conditions.
- 3. The Notebook PC and test fixture is moving when test mode set finish. The software provided by the manufacturer, the test is performed under the specific conditions.
- 4. Set different channel and data rate being tested and repeat the procedures above.
 - (a) Conducted test and Radiated:

making EUT to the mode of continuous transmission

1.4 Description of Support Equipment

In order to construct the minimum testing, following equipment were used as the support units.

Notebook : DELL

Model No. : JX285 (PP26L)
Serial No. : 410362204
FCC ID : Doc Approved

BSMI : R33002

Power Adaptor : DELL

Model No. : LA65NS1-00 Part No. : PA-1650-05D3

Serial No. : CN-0YD637-716145-82T-0B8F

FCC ID : Doc Approved

BSMI : R33275

Power type : $100 \sim 240 \text{VAC} / 50 - 60 \text{Hz}$, 1.5A, Switching

Power cord (Main power to adaptor): Non-shielded, 0.90m length, Plastic hood, No ferrite core

Power cord (DC plug to adaptor): Shielded, 1.83m length, Plastic hood, ferrite core

Test fixture

(PCI Express Extend Card): PEGATRON CORPORATION

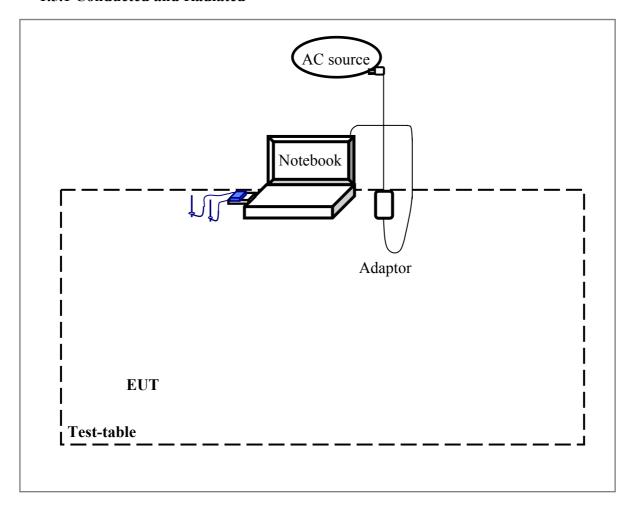
Model No. : ADC-PEMCCC01

Serial No. : N/A
Power type : By NB

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1.5 Configuration of System Under Test

1.5.1 Conducted and Radiated



Notebook PC:

*Mini-PCI Port EUT

The tests below are carried with the EUT transmitter set at high power in TDD mode. The EUT is forced to select of output power level and channel number by notebook computer.

The setting up procedure was recorded in 1.3 test method.

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1.6 Verify the Frequency and Channel

Operated at 5150MHz to 5250MHz

802.11a and draft 802.11a (20MHz):

Channel	Frequency (GHz)
1	5.180
2	5.200
3	5.220
4	5.240

Draft 802.11a (40MHz):

Channel	Frequency (GHz)				
1	5.190				
2	5.230				

Operated at 5725MHz to 5825MHz

802.11a and draft 802.11a (20MHz):

Channel	Frequency (GHz)
1	5.745
2	5.765
3	5.785
4	5.805

Draft 802.11a (40MHz):

Channel	Frequency (GHz)
1	5.755
2	5.795

Note:

- 1. This is for confirming that all frequencies are in 5.180GHz to 5.240GHz, 5.745GHz to 5.805GHz.
- Section 15.31(m): Measurements on intentional radiators or receivers shall be performed at three frequencies for operating frequency range over 10 MHz (The locations of these frequencies one near the top, one near the middle and one near the bottom.)
- 3. After test, the EUT operating frequencies are in 5.180GHz to 5.240GHz, 5.745GHz to 5.805GHz. So all the items as followed in testing report are need to test these three frequencies:

Lowest: Channel; Middle: Channel; Highest: Channel.

1.7 Test Procedure

All measurements contained in this report were performed mainly according to the techniques described in ANSI C63.4 (2003) and the pre-setup was written on 1.3 test method, the detail setup was written on each test item.

1.8 Location of the Test Site

The radiated emissions measurements required by the rules were performed on the **three-meter**, **Semi-anechoic Chamber (FCC Registration Number: 93906)** maintained by *Training Research Co., Ltd.* 1F, No. 255 Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. Complete description and measurement data have been placed on file with the commission. The conducted power line emissions tests and other test items were performed in a semi-anechoic chamber also located at Training Research Co., Ltd.

No. 255 Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. *Training Research Co., Ltd.* is listed by the FCC as a facility available to do measurement work for others on a contract basis.

1.9 General Test Condition

The conditions under which the EUT operates were varied to determine their effect on the equipment's emission characteristics. The final configuration of the test system and the mode of operation used during these tests were chosen as that which produced the highest emission levels. However, only those conditions, which the EUT was considered likely to encounter in normal use were investigated.

In test, they were set in high power and continuously transmitting mode that controlled by computer. The lowest; middle and highest channels of EUT were all tested. The setting up procedure is recorded on 1.3 test method.

II. Section 15.203: Antenna requirement

The EUT can be equipped with detachable antenna. The external antenna is affixed to the EUT using a unique connector. The antenna requirement stated in Section15.203 is inapplicable to this EUT.

The antenna specification of list as follows,

Antenna No.	Antenna Manufacturer	Model	Connector	With Core	Antenn a Type	Frequenc y (GHz)	Antenn a Gain (Max.)
Antenna #1	Airgain	N5X20SC- T-130U	U.FL COMPATIBLE PLUG	NO	РСВ	5.15 5.25 5.725 5.850	5.04dBi 4.79dBi 5.12dBi 4.95dBi
Antenna #2	Airgain	N5X20SC- T-130U	U.FL COMPATIBLE PLUG	YES	РСВ	5.15 5.25 5.750 5.825	5.04dBi 4.79dBi 5.12dBi 4.95dBi
Antenna #3	Wanshu	WPB210 & WPB211	MHF	YES	РСВ	5.15 5.25 5.750 5.825	3.55dBi 4.11dBi 4.56dBi 4.71dBi

Note:

- 1) For more detailed features description, please reference to the Antenna Specifications. (Please reference to RF Exposure Information)
- 2) We select three kinds antenna including antenna #1, antenna #2 and antenna #3 which apply to conduction and radiated emission.
- 3) The conduction and radiated emissions data presented the worst case of the **antenna #1** supplied with the EUT.

III. Section 15.407(b)(6): Power Line Conducted Emissions for AC Powered Units

3.1 Test Condition & Setup

The power line conducted emission measurements were performed in an semi-anechoic chamber. The EUT was assembled on a wooden table, which is 80 centimeters high, was placed 40 centimeters from the backwall and at least 1 meter from the sidewall.

Power was fed to the EUT from the public utility power grid through a line filter and Line Impedance Stabilization Networks (LISNs). The LISN housing, measuring instrumentation case, ground plane, etc., were electrically bonded together at the same RF potential. The Spectrum analyzer (or EMI receiver) was connected to the AC line through an isolation transformer. The 50-ohm output of the LISN was connected to the spectrum analyzer directly. Conducted emission levels were in the CISPR quasi-peak and average detection mode. The analyzer's 6 dB bandwidth was set to 9 KHz. No post-detector video filter was used.

The spectrum was scanned from 150 KHz to 30 MHz. The physical arrangement of the test system and associated cabling was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude and frequency. All spurious emission frequencies were observed. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in paragraph 4.3

There is a test condition apply in this test item, the test procedure description as <1.3>. Three channels were tested, one in the lowest (CH36), one in the middle (CH40) and the other in highest (CH48) for IEEE 802.11a. The setting up procedure is recorded on <1.3>

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3.2 List of Test Instruments

Calibration Date

		T	T	Calibration Date
Instrument Name	Model	Brand	Serial No.	Next time
EMI Receiver	8546A	HP	3520A00242	09/12/11
RF Filter Section	85460A	HP	3448A00217	09/12/11
LISN	3816/2	EMCO	00042976	02/10/12
(EUT)				
LISN	3816/2	EMCO	00042989	01/26/12
(Support E.)				
Pre-amplifier	15542 ZFL-500	Mini –	0 0117	10/06/11
		Circuits		
6dB	MCL BW-S6W2	Mini –	9915 –	10/06/11
Attenuator		Circuits	Conducted	
10dB	A5542 VAT010	Mini –	0215 -	10/06/11
Attenuator		Circuits	Conducted	
Coaxial Cable	A30A30-0058-50FS-2M	Jyebao	SMA-08	10/06/11
(2.0 meter)				
Coaxial Cable	A30A30-0058-50FS-1M	Jyebao	SMA-09	10/06/11
(1.1 meter)				
Coaxial Cable	RG-214/U	Jyebao	NP-01	10/06/11
(20 meter)				
Coaxial Cable	RG-214/U	Jyebao	NP-02	10/06/11
(20 meter)				
Auto Switch Box	ASB-01	TRC	9904-01	10/06/11
(< 30MHz)				

3.3 Test Result of Power Line Conducted Emissions

The following table shows a summary of the highest emissions of power line conducted emissions on the LIVE and NETURAL conductors of the EUT power cord. Show as follows.

Test Conditions: Temperature: 25 °C Humidity: 73 % RH

Test mode: IEEE 802.11a 5180MHz

Pov		Class B					
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin
	(KHz)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dB)
	166.000	51.88			65.54	55.54	-3.66
	279.000	41.57			62.31	52.31	-10.74
	945.000	35.54			56.00	46.00	-10.46
Line 1	1783.000	39.64			56.00	46.00	-6.36
	2051.000	38.82			56.00	46.00	-7.18
	3740.375	46.39	43.81	28.41	56.00	46.00	-12.19
	166.000	50.74			65.54	55.54	-4.80
	2179.000	39.04			56.00	46.00	-6.96
	3291.245	46.61	41.60	23.13	56.00	46.00	-14.41
Line 2	3625.060	49.70	45.36	28.66	56.00	46.00	-10.64
	3906.890	51.64	49.48	33.16	56.00	46.00	-6.52
	4016.425	50.78	48.14	32.10	56.00	46.00	-7.86

NOTE:

⁽¹⁾Margin = Peak Amplitude – Limit, *The reading amplitudes are all under limit.*

⁽²⁾A "+" sign in the margin column means the emission is OVER the Class B Limit and "-" sign of means UNDER the Class B limit

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Test mode: IEEE 802.11a 5200MHz

Pov		Class B					
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin
	(KHz)	(dBµV)	(dBµV)	(dBµV)	$(dB\mu V)$	(dBµV)	(dB)
	166.000	52.11			65.54	55.54	-3.43
	1783.000	39.10			56.00	46.00	-6.90
	2051.000	38.15			56.00	46.00	-7.85
Line 1	3574.000	40.11			56.00	46.00	-5.89
	3780.000	41.56			56.00	46.00	-4.44
	4053.000	38.81			56.00	46.00	-7.19
	166.000	49.60			65.54	55.54	-5.94
	1613.000	39.02			56.00	46.00	-6.98
	2012.000	38.11			56.00	46.00	-7.89
Line 2	3570.325	50.00	45.55	28.93	56.00	46.00	-10.45
	3683.430	50.70	47.73	31.30	56.00	46.00	-8.27
	3907.050	51.66	49.92	32.21	56.00	46.00	-6.08

Test mode: IEEE 802.11a 5240MHz

Pov		Class B					
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin
	(KHz)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dB)
	167.000	51.29			65.51	55.51	-4.22
	1889.000	39.32			56.00	46.00	-6.68
	2115.000	39.05			56.00	46.00	-6.95
Line 1	3381.000	40.08			56.00	46.00	-5.92
	3670.000	41.12			56.00	46.00	-4.88
	4014.000	39.78			56.00	46.00	-6.22
	169.000	49.79			65.46	55.46	-5.67
	3285.000	42.12			56.00	46.00	-3.88
	3457.840	48.15	43.94	26.22	56.00	46.00	-12.06
Line 2	3794.300	51.54	49.63	31.95	56.00	46.00	-6.37
	3906.120	51.73	50.02	33.30	56.00	46.00	-5.98
	4127.960	48.00	45.77	31.19	56.00	46.00	-10.23

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Test mode: IEEE 802.11a 20M 5180MHz

Pov		Class B					
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin
	(KHz)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dB)
	168.670	56.05	53.37	45.59	65.46	55.46	-9.87
	824.000	41.62			56.00	46.00	-4.38
	2094.000	40.58			56.00	46.00	-5.42
Line 1	4050.490	46.54	44.68	31.33	56.00	46.00	-11.32
	4380.760	43.68	41.55	30.41	56.00	46.00	-14.45
	5080.000	43.96			60.00	50.00	-6.04
	168.230	54.44	52.17	44.32	65.00	55.00	-11.08
	2243.000	42.64			56.00	46.00	-3.36
	3475.660	49.21	45.02	26.51	56.00	46.00	-10.98
Line 2	3867.000	51.23	49.71	33.34	56.00	46.00	-6.29
	3920.665	51.83	50.01	34.12	56.00	46.00	-5.99
	4200.865	46.94	45.04	30.07	56.00	46.00	-10.96

Test mode: IEEE 802.11a 20M 5200MHz

Por		Class B					
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin
	(KHz)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dB)
	164.000	51.25			65.60	55.60	-4.35
	824.000	42.07			56.00	46.00	-3.93
	1783.000	39.10			56.00	46.00	-6.90
Line 1	2115.000	39.40			56.00	46.00	-6.60
	3574.000	39.13			56.00	46.00	-6.87
	3852.930	46.79	45.04	30.58	56.00	46.00	-10.96
	166.000	52.37			65.54	55.54	-3.17
	824.000	41.36			56.00	46.00	-4.64
	1889.000	42.07			56.00	46.00	-3.93
Line 2	3445.000	42.86			56.00	46.00	-3.14
	3907.245	51.34	49.83	33.31	56.00	46.00	-6.17
	4241.570	44.83	42.89	30.07	56.00	46.00	-13.11

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Test mode: IEEE 802.11a 20M 5240MHz

Pov	ver Conne	ected	Emissions	S	Class B			
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin	
	(KHz)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dB)	
	167.725	53.92	50.99	44.41	65.46	55.46	-11.05	
	824.000	41.64			56.00	46.00	-4.36	
	945.000	40.00			56.00	46.00	-6.00	
Line 1	2179.000	38.29			56.00	46.00	-7.71	
	3741.000	42.13			56.00	46.00	-3.87	
	3961.725	47.25	45.66	30.51	56.00	46.00	-10.34	
	167.000	52.19			65.51	55.51	-3.32	
	832.000	42.95			56.00	46.00	-3.05	
	3285.000	42.05			56.00	46.00	-3.95	
Line 2	3514.490	48.11	43.48	26.99	56.00	46.00	-7.22	
	3792.410	51.35	48.78	32.66	56.00	46.00	-7.64	
	3906.145	50.61	48.36	32.36	56.00	46.00	-9.61	

Test mode: IEEE 802.11a 40M 5190MHz

Pov	ver Conne		Emissions	S		Class B	
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin
	(KHz)	(dBµV)	(dBµV)	(dBµV)	$(dB\mu V)$	(dBµV)	(dB)
	163.000	52.02			65.63	55.63	-3.61
	832.000	41.24			56.00	46.00	-4.76
	1889.000	39.04			56.00	46.00	-6.96
Line 1	3510.000	39.16			56.00	46.00	-6.84
	3737.725	45.76	43.13	29.86	56.00	46.00	-12.87
	3960.765	47.07	45.50	31.38	56.00	46.00	-10.50
	164.590	57.62	48.34	42.16	65.63	55.63	-13.47
	832.000	41.82			56.00	46.00	-4.18
	3445.000	41.71			56.00	46.00	-4.29
Line 2	3681.440	50.17	48.18	30.52	56.00	46.00	-7.82
	3794.100	51.12	48.49	31.80	56.00	46.00	-7.51
	3903.720	50.53	48.07	33.27	56.00	46.00	-7.93

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Test mode: IEEE 802.11a 40M 5230MHz

Po	ver Conne	ected	Emissions	S	FCC Class B			
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin	
	(KHz)	(dBµV)	(dBµV)	(dBµV)	$(dB\mu V)$	(dBµV)	(dB)	
	155.000	52.53			65.86	55.86	-3.33	
	165.895	54.30	50.59	44.16	65.63	55.63	-11.47	
	824.000	42.19			56.00	46.00	-3.81	
Line 1	945.000	39.40			56.00	46.00	-6.60	
	3849.170	46.44	45.01	30.62	56.00	46.00	-10.99	
	4014.000	41.90			56.00	46.00	-4.10	
	155.000	51.87			65.86	55.86	-3.99	
	166.000	51.79			65.54	55.54	-3.75	
	832.000	41.75			56.00	46.00	-4.25	
Line 2	3345.605	40.94	36.06	24.18	56.00	46.00	-19.94	
	3738.565	43.94	42.36	28.71	56.00	46.00	-13.64	
	4072.970	45.35	43.47	29.59	56.00	46.00	-12.53	

Test mode: IEEE 802.11a 5745MHz

Por	ver Conne	ected 1	Emissions	ĭ		Class B	
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin
	(KHz)	$(dB\mu V)$	(dBµV)	$(dB\mu V)$	$(dB\mu V)$	$(dB\mu V)$	(dB)
	167.000	52.20			65.51	55.51	-3.31
	1713.000	40.04			56.00	46.00	-5.96
	1836.000	40.73			56.00	46.00	-5.27
Line 1	1941.000	40.92			56.00	46.00	-5.08
	3780.000	41.67			56.00	46.00	-4.33
	3936.000	42.76			56.00	46.00	-3.24
	2051.000	40.99			56.00	46.00	-5.01
	3158.000	40.76			56.00	46.00	-5.24
	3349.000	40.65			56.00	46.00	-5.35
Line 2	3565.700	48.09	44.68	29.04	56.00	46.00	-11.32
	3901.675	51.72	49.75	33.68	56.00	46.00	-6.25
	4013.355	51.30	49.19	33.69	56.00	46.00	-6.81

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Test mode: IEEE 802.11a 5785MHz

Pov	ver Conne	ected 1	Emissions	S	Class B			
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin	
	(KHz)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dB)	
	169.000	50.17			65.46	55.46	-5.29	
	2158.000	41.02			56.00	46.00	-4.98	
	2265.000	40.88			56.00	46.00	-5.12	
Line 1	3671.360	45.79	43.37	29.44	56.00	46.00	-12.63	
	3837.905	47.77	45.99	32.01	56.00	46.00	-10.01	
	4006.780	47.59	45.50	31.50	56.00	46.00	-10.50	
	1550.000	40.29			56.00	46.00	-5.71	
	3448.455	48.10	43.81	26.98	56.00	46.00	-12.19	
	3671.585	50.41	47.50	31.26	56.00	46.00	-8.50	
Line 2	3894.455	51.77	50.15	34.31	56.00	46.00	-5.85	
	4062.705	49.33	47.87	32.84	56.00	46.00	-8.13	
	4762.000	41.01			56.00	46.00	-4.99	

Test mode: IEEE 802.11a 5805MHz

Po	ver Conne	ected	Emissions	S	Class B			
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin	
	(KHz)	$(dB\mu V)$	$(dB\mu V)$	(dBµV)	$(dB\mu V)$	$(dB\mu V)$	(dB)	
	167.000	50.68			65.51	55.51	-4.83	
	1941.000	40.12			56.00	46.00	-5.88	
	3477.000	40.15			56.00	46.00	-5.85	
Line 1	3788.505	46.61	44.30	29.98	56.00	46.00	-11.70	
	3897.000	42.32			56.00	46.00	-3.68	
	4092.000	41.45			56.00	46.00	-4.55	
	3094.000	42.12			56.00	46.00	-3.88	
	3561.890	49.00	43.99	28.58	56.00	46.00	-12.01	
	3619.920	50.53	47.85	30.77	56.00	46.00	-8.15	
Line 2	3843.130	51.48	49.68	33.36	56.00	46.00	-6.32	
	3899.720	51.40	49.86	34.05	56.00	46.00	-6.14	
	4120.315	48.92	46.62	32.50	56.00	46.00	-9.38	

Test Report ------ 19/56

Test mode: IEEE 802.11a 20M 5745MHz

Pov	ver Conne	ected	Emissions	·	Class B			
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin	
	(KHz)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dB)	
	169.480	55.81	54.37	45.54	65.46	55.46	-9.92	
	1464.000	42.00			56.00	46.00	-4.00	
	3535.550	44.21	40.27	28.10	56.00	46.00	-15.73	
Line 1	3927.205	47.59	45.72	31.52	56.00	46.00	-10.28	
	4210.000	42.22			56.00	46.00	-3.78	
	4571.000	40.86			56.00	46.00	-5.14	
	169.290	55.37	53.52	44.34	65.51	55.51	-11.17	
	3414.110	49.11	43.63	26.17	56.00	46.00	-12.37	
	3749.610	51.71	49.37	30.60	56.00	46.00	-6.63	
Line 2	3859.370	52.91	50.55	32.66	56.00	46.00	-5.45	
	3969.890	52.71	50.22	32.28	56.00	46.00	-5.78	
	4190.255	49.10	46.92	32.36	56.00	46.00	-9.08	

Test mode: IEEE 802.11a 20M 5785MHz

Test motte.	IEEE 002.110	# 2 011 1 570	J11114													
Pov	ver Conne	cted	Emissions	S	Class B											
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin									
	(KHz)	(dBµV)	(dBµV)	(dBµV)	$(dB\mu V)$	(dBµV)	(dB)									
	166.000	52.10			65.54	55.54	-3.44									
	1503.000	39.81			56.00	46.00	-6.19									
	1836.000	39.46			56.00	46.00	-6.54									
Line 1	2158.000	41.00			56.00	46.00	-5.00									
	3819.000	41.02			56.00	46.00	-4.98									
	3936.000	42.74			56.00	46.00	-3.26									
	2051.000	39.17			56.00	46.00	-6.83									
	3221.000	41.30			56.00	46.00	-4.70									
	3510.000	42.60			56.00	46.00	-3.40									
Line 2	3623.315	45.70	43.27	28.78	56.00	46.00	-12.73									
	3623.015	46.00	47.75	30.36	56.00	46.00	-8.25									
	3902.000	51.47	49.83	34.07	56.00	46.00	-6.17									

Test Report ------ 20/56

Test mode: IEEE 802.11a 20M 5805MHz

Pov	ver Conne	ected	Emissions	S	Class B			
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin	
	(KHz)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dB)	
	166.000	51.05			65.54	55.54	-4.49	
	1613.000	40.14			56.00	46.00	-5.86	
	1941.000	39.76			56.00	46.00	-6.24	
Line 1	3381.000	39.84			56.00	46.00	-6.16	
	3638.000	40.31			56.00	46.00	-5.69	
	3903.210	47.41	45.81	31.66	56.00	46.00	-10.19	
	166.000	49.99			65.54	55.54	-5.55	
	1550.000	40.57			56.00	46.00	-5.43	
	2012.000	39.40			56.00	46.00	-6.60	
Line 2	3400.440	46.72	42.94	26.75	56.00	46.00	-13.06	
	3849.410	51.50	49.13	32.04	56.00	46.00	-6.87	
	4131.000	39.78			56.00	46.00	-6.22	

Test mode: IEEE 802.11a 40M 5755MHz

	TEEE 002.11					~· -		
Pov	ver Conne	ected 1	Emissions	5	Class B			
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin	
	(KHz)	(dBµV)	(dBµV)	(dBµV)	$(dB\mu V)$	(dBµV)	(dB)	
	167.635	56.27	53.79	45.61	65.46	55.46	-9.85	
	1731.000	37.36			56.00	46.00	-8.64	
	2072.000	38.96			56.00	46.00	-7.04	
Line 1	2243.000	38.66			56.00	46.00	-7.34	
	3477.000	39.63			56.00	46.00	-6.37	
	4091.055	45.93	43.91	30.87	56.00	46.00	-12.09	
	169.075	55.55	53.08	44.41	65.46	55.46	-11.05	
	2286.000	40.92			56.00	46.00	-5.08	
	3252.470	48.97	44.95	27.80	56.00	46.00	-11.05	
Line 2	3859.490	51.76	49.86	33.29	56.03	46.03	-6.14	
	3969.085	51.73	49.88	33.55	56.00	46.00	-6.12	
	4303.770	44.85	42.43	30.35	56.00	46.00	-13.57	

Test Report ------ 21/56

Test mode: IEEE 802.11a 40M 5795MHz

Por	ver Conne	ected	Emissions	S	FCC Class B			
Conductor	Frequency	Peak	QP	Average	QP-limit	AVG-limit	Margin	
	(KHz)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dB)	
	167.890	54.63	52.09	45.12	65.54	55.54	-10.42	
	2115.000	41.21			56.00	46.00	-4.79	
	3574.000	41.97			56.00	46.00	-4.03	
Line 1	3793.320	46.53	44.46	30.28	56.00	46.00	-11.54	
	3904.385	47.37	45.44	30.63	56.00	46.00	-10.56	
	4249.000	41.44			56.00	46.00	-4.56	
	167.815	53.78	51.27	43.58	65.46	55.46	-11.88	
	1783.000	41.84			56.00	46.00	-4.16	
	2179.000	42.77			56.00	46.00	-3.23	
Line 2	3175.865	44.37	38.52	23.70	56.00	46.00	-17.48	
	3623.160	50.54	47.79	30.06	56.00	46.00	-8.21	
	3790.630	51.33	49.36	31.99	56.00	46.00	-6.64	

IV. Section 15.407 (b)(6), (b)(7): Spurious Emissions (Radiated)

4.1 Test Condition & Setup

We'd performed the test by the *radiated emission* skill: The EUT was placed in an semi-anechoic chamber, and set the EUT transmitting continuously and scanned at 3-meter distance to determine its emission characteristics. The physical arrangement of the EUT was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude, directivity, and frequency. The exact system configuration, which produced the highest emissions was noted so it could be reproduced later during the final tests. For the measurement above 1GHz, according to the guidance we'd set the spectrum analyzer's 6dB bandwidth RBW to 1MHz.

This was done to ensure that the final measurements would demonstrate the worst-case interference potential of the EUT.

Final radiation measurements were made on a three-meter, semi-anechoic chamber. The EUT system was placed on a nonconductive turntable, which is 0.8 meters height, top surface 1.0×1.5 meter.

The spectrum was examined from 30MHz to 1000MHz using an Hewlett Packard 85460A EMI Receiver, SCHWARZECK whole range Small Biconical Antenna (Model No.: UBAA9114 & BBVU9135) is used to measure frequency from 30 MHz to 1GHz. The final test is used the HP 85460A spectrum and 8564E spectrum was examined from 1GHz to 40GHz using an Hewlett Packard Spectrum Analyzer, EMCO/HP Horn Antenna (Model 3115 / 84125-80008/84125-80001) for 1G –40GHz.

At each frequency, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. There are two spectrum analyzers use on this testing, HP 85460A for frequency 30MHz to 1000MHz, and 8564E for frequency 1GHz to 40GHz. No post-detector video filters were used in the test. The spectrum analyzer's 6dB bandwidth was set to 120KHz (spectrum was examined from 30 MHz to 1000 MHz), the spectrum analyzer's 6 dB bandwidth was set to 1 MHz (spectrum was examined from 1GHz to 40GHz) and the analyzer was operated in the maximum hold mode. There is a test condition applies in this test item, the test procedure description as the following:

Three channels were tested, one in the lowest (CH36), one in the middle (CH40) and the other in highest (CH48) for IEEE 802.11a. The setting up procedure is recorded on <1.3>

Test Report ----- 23/56

With the transmitter operating from a AC source and using the internal of EUT, radiates spurious emissions falling within the restricted bands of 15.209 were measured at operating frequencies corresponding to upper, middle and bottom channels in the $5150 \sim 5250$ MHz band.

The actual field intensity in decibels referenced to 1 microvolt per meter ($dB\mu V/m$) is determined by algebraically adding the measured reading in $dB\mu V$, the antenna factor (dB), and cable loss (dB) at the appropriate frequency. Since the EUT was set to transmit continuously, no *duty cycle* is present.

For frequency between 30MHz to 1000MHz

FIa $(dBuV/m) = FIr (dB\mu V) + Correction Factors$

FIa: Actual Field Intensity

FIr : Reading of the Field Intensity

Correction Factors = Antenna Factor + (Cable Loss – Amplifier Gain) + Switching Box Loss

For frequency between 1GHz to 40GHz

FIa $(dB\mu V/m)$ = FIr $(dB\mu V)$ + Correction Factor

FIa: Actual Field Intensity

FIr : Reading of the Field Intensity

Correction Factors = Antenna Factor + (Cable Loss – Amplifier Gain) + Switching Box Loss

Test Report ------ 24/56

4.2 List of Test Instruments

Calibration Date

	1	1	1	Calibration Date
Instrument Name	Model	Brand	Serial No.	Next time
EMI Receiver	8546A	HP	3520A00242	09/12/11
RF Filter Section	85460A	HP	3448A00217	09/12/11
Small Biconical	UBAA9114 &	Schwarzeck	127	09/21/11
Antenna	BBVU9135			
Pre-amplifier	PA1F	TRC	1FAC	10/06/11
Coaxial Cable	A30A30-0058-50FS-15M	Jyebao	SMA-01	10/06/11
(Double shielded,				
15 meter)				
Coaxial Cable	A30A30-0058-50FS-1M	JYEBAO	SMA-02	10/06/11
(1.1 meter)				
Spectrum Analyzer	8564E	HP	3720A00840	04/12/12
Microwave	84125C	HP	US36433002	10/19/11
Preamplifier				
Horn Antenna	3115	EMCO	9104-3668	01/27/12
Standard Guide	84125-80008	HP	18-26.5GHz	01/18/12
Horn Antenna				
Standard Guide	84125-80001	HP	26.5-40GHz	01/31/12
Horn Antenna				
Horn Antenna	1196E (3115)	HP (EMCO)	9704-5178	01/31/12
Pre-amplifier	PA2F	TRC	2F1GZ	01/31/12
Coaxial Cable	A30A30-0058-50FST118	JYEBAO	MSA-05	01/31/12
(3 miter)				
Coaxial Cable	A30A30-0058-50FST118	JYEBAO	MSA-04	01/31/12
(1 meter)				

Test Report ----- 25/56

4.3 Test Result of Spurious Radiated Emissions

The highest peak values of radiated emissions form the EUT at various antenna heights, antenna polarizations, EUT orientation, etc. are recorded on the following.

Test Conditions: Temperature : 25 ° C Humidity : 73 % RH

Test mode: IEEE 802.11a 5180MHz for 30MHz to 1GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	-
Frequency (MHz)	Amplitude (dB µV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)
101.54	32.84	1.00	309	-1.04	31.80	43.50	-11.70
198.54	42.22	1.00	156	-2.85	39.37	43.50	-4.13
257.95	39.03	1.00	129	-3.46	35.57	46.00	-10.43
300.39	41.77	1.00	160	-2.83	38.94	46.00	-7.06
322.21	36.47	1.00	170	-2.61	33.86	46.00	-12.14
367.07	34.82	1.00	170	-1.83	32.99	46.00	-13.01

Test mode: IEEE 802.11a 5180MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Class B (3 m)		
Frequency (MHz)	Amplitude (dB µV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)	
93.05	31.22	1.00	3	-0.39	30.83	43.50	-12.67	
101.54	31.14	1.00	215	-1.04	30.10	43.50	-13.40	
129.43	29.01	1.00	165	-2.61	26.40	43.50	-17.10	
169.44	31.45	1.00	195	-3.65	27.80	43.50	-15.70	
198.54	35.41	1.00	246	-2.85	32.56	43.50	-10.94	
696.87	25.56	1.00	294	9.30	34.86	46.00	-11.14	

Note:

- 1. Margin = Amplitude limit, *if margin is minus means under limit*.
- 2. Corrected Amplitude = Reading Amplitude + Correction Factors
- 3. Correction factor = Antenna factor + (Cable Loss Amplitude gain) + Switching Box Loss

Test Report ----- 26/56

Test mode: IEEE 802.11a 5180MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Ampl	litude	Correction Factor			Limit		Margin
			Peak .	/Ave.		Peak	/ Ave.	Peak	/ Ave.	
MHz	m	degree	dBμV		dB/m	dΒμ	vV/m	dΒμ	ıV/m	dB
2491.67	1.00	296	40.00		9.47	49.47		73.96	53.96	-4.49
5150.09	1.00	173	34.83		15.30	50.13		73.96	53.96	-3.83
7406.17	1.00	15	36.44		10.39	46.83		73.96	53.96	-7.13
15541.83	1.00	159	39.77		5.98	45.75		73.96	53.96	-8.21
25901.46	1.00	238	48.18		0.64	48.82		73.96	53.96	-5.14
36259.37	1.00	193	41.36		3.79	45.15		73.96	53.96	-8.81

Test mode: IEEE 802.11a 5180MHz for 1GHz to 40GHz [Vertical]

Frequency	Ant.	Table	Amni	litud <i>o</i>	Correction	Corr	ected	Limit		Margin
1 requency	Н.	Tubic	Amplitude		Factor		litude	Li		Murgin
			Peak .	/ Ave.		Peak	/Ave.	Peak	/Ave.	
MHz	m	degree	$dB\mu V$		dB/m	dΒμ	vV/m	$dB\mu$	ιV/m	dB
1662.02	1.00	222	40.73	25.00	13.36	54.09	38.36	73.96	53.96	-15.60
5150.09	1.00	231	32.66		15.30	47.96		73.96	53.96	-6.00
7921.33	1.00	55	36.77		10.88	47.65		73.96	53.96	-6.31
10360.08	1.00	306	34.94		11.51	46.45		73.96	53.96	-7.51
25901.46	1.00	247	48.41		0.64	49.05		73.96	53.96	-4.91
36259.37	1.00	183	41.15		3.79	44.94		73.96	53.96	-9.02

Note:

- 1. Margin = Corrected Limit.
- 2. The EUT utilizes a *permanently attached antenna*. In addition the spurious RF radiated emissions levels do comply with the limit both at its bandedges and other spurious emissions.
- 3. As stated in Section 15.35(b), for any frequencies above 1000MHz, radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. As the results of our test, the peak amplitudes are already below the FCC limit. Thus the average amplitudes of the rest are omitted.

Test Report ------ 27/56

Test mode: IEEE 802.11a 5200MHz for 30MHz to 1GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Class B (3 m)		
Frequency (MHz)	Amplitude (dB µV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)	
100.32	33.13	1.00	316	-0.98	32.15	43.50	-11.35	
196.11	42.63	1.00	132	-2.94	39.69	43.50	-3.81	
226.42	38.91	1.00	126	-3.23	35.68	46.00	-10.32	
257.95	40.25	1.00	207	-3.46	36.79	46.00	-9.21	
301.60	42.43	1.00	177	-2.81	39.62	46.00	-6.38	
322.21	38.54	1.00	197	-2.61	35.93	46.00	-10.07	

Test mode: IEEE 802.11a 5200MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	-
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)
101.54	31.40	1.00	215	-1.04	30.36	43.50	-13.14
130.64	29.51	1.00	155	-2.69	26.82	43.50	-16.68
168.22	30.35	1.00	145	-3.65	26.70	43.50	-16.80
198.54	34.96	1.00	246	-2.85	32.11	43.50	-11.39
301.60	30.75	1.00	158	-2.81	27.94	46.00	-18.06
696.87	25.51	1.00	294	9.30	34.81	46.00	-11.19

Test Report ------ 28/56

Test mode: IEEE 802.11a 5200MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Amplitude		Correction Factor	Corrected Amplitude		Limit		Margin
			Peak .	/ Ave.		Peak	/Ave.	Peak	/ Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	V/m	dΒμ	ιV/m	dB
1658.33	1.00	176	35.50		13.42	48.92		73.96	53.96	-5.04
4983.33	1.00	21	35.67		14.83	50.50		73.96	53.96	-3.46
7437.33	1.00	297	36.27		10.34	46.61		73.96	53.96	-7.35
15599.00	1.00	114	39.77		5.89	45.66		73.96	53.96	-8.30
26000.62	1.00	162	47.37		1.30	48.67		73.96	53.96	-5.29
36400.00	1.00	239	40.25		3.65	43.90		73.96	53.96	-10.06

Test mode: IEEE 802.11a 5200MHz for 1GHz to 40GHz [Vertical]

Frequency	Ant. H.	Table	Ampl	litude	Correction Factor	Corrected Amplitude		Limit		Margin
			Peak .	/ Ave.		Peak	/Ave.	Peak	/ Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	vV/m	dΒμ	ιV/m	dB
1658.33	1.00	153	36.50		13.42	49.92		73.96	53.96	-4.04
5000.00	1.00	217	36.00		14.89	50.89		73.96	53.96	-3.07
7380.50	1.00	184	35.77		10.43	46.20		73.96	53.96	-7.76
10400.92	1.00	258	34.94		11.35	46.29		73.96	53.96	-7.67
26000.62	1.00	158	47.00		1.30	48.30		73.96	53.96	-5.66
36400.00	1.00	225	40.44		3.65	44.09		73.96	53.96	-9.87

Test Report ------ 29/56

Test mode: IEEE 802.11a 5240MHz for 30MHz to 1GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Class B (3 m)		
Frequency (MHz)	Amplitude (dB µV)	Ant. H. (m)	Table ()	(dB)	(dBµV/m)	Limit (dBµV/m)	Margin (dB)	
101.54	33.09	1.00	306	-1.04	32.05	43.50	-11.45	
198.54	41.76	1.00	145	-2.85	38.91	43.50	-4.59	
211.87	34.68	1.00	145	-2.81	31.87	43.50	-11.63	
260.37	37.46	1.00	209	-3.48	33.98	46.00	-12.02	
301.60	41.71	1.00	168	-2.81	38.90	46.00	-7.10	
323.42	36.61	1.00	188	-2.60	34.01	46.00	-11.99	

Test mode: IEEE 802.11a 5240MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas (3)	-
Frequency (MHz)	Amplitude (dB µV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)
101.54	31.47	1.00	217	-1.04	30.43	43.50	-13.07
130.64	30.37	1.00	156	-2.69	27.68	43.50	-15.82
168.22	32.74	1.00	166	-3.65	29.09	43.50	-14.41
197.32	35.10	1.00	248	-2.89	32.21	43.50	-11.29
301.60	30.54	1.00	160	-2.81	27.73	46.00	-18.27
699.30	25.80	1.00	294	9.38	35.18	46.00	-10.82

Test Report ----- 30/56

Test mode: IEEE 802.11a 5240MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Ampl	litude	Correction Factor		Corrected Amplitude		Limit	
			Peak .	/ Ave.		Peak	/ Ave.	Peak	/Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	·V/m	dΒμ	ıV/m	dB
4133.33	1.00	178	35.00		13.78	48.78		73.96	53.96	-5.18
4987.50	1.00	171	35.67		14.84	50.51		73.96	53.96	-3.45
5420.93	1.00	23	35.16		16.03	51.19		73.96	53.96	-2.77
7947.00	1.00	9	35.77		10.85	46.62		73.96	53.96	-7.34
15721.50	1.00	156	39.94		6.05	45.99		73.96	53.96	-7.97
26202.50	1.00	188	49.25		1.59	50.84		73.96	53.96	-3.12
36681.25	1.00	27	41.72		3.23	44.95		73.96	53.96	-9.01

Test mode: IEEE 802.11a 5240MHz for 1GHz to 40GHz [Vertical]

Frequency	Ant. H.	Table	Ampl	litude	Correction Factor		Corrected Amplitude		Limit	
			Peak .	/Ave.		Peak .		Peak	/Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	ıV/m	dΒμ	ιV/m	dB
1662.50	1.00	136	38.50		13.36	51.86		73.96	53.96	-2.10
4979.17	1.00	200	35.17		14.81	49.98		73.96	53.96	-3.98
5415.07	1.00	249	34.00		16.01	50.01		73.96	53.96	-3.95
7444.67	1.00	156	36.28		10.32	46.60		73.96	53.96	-7.36
10478.50	1.00	320	35.94		10.82	46.76		73.96	53.96	-7.20
26202.50	1.00	173	49.72		1.59	51.31		73.96	53.96	-2.65
36681.25	1.00	37	41.80		3.23	45.03		73.96	53.96	-8.93

Test Report ----- 31/56

Test mode: IEEE 802.11a 20M 5180MHz for 30MHz to 1GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	
Frequency (MHz)	Amplitude (dBµV)	Ant. H. (m)	Table ()	(dB)	(dBµV/m)	Limit (dBµV/m)	Margin (dB)
100.32	33.73	1.00	326	-0.98	32.75	43.50	-10.75
199.75	41.51	1.00	145	-2.81	38.70	43.50	-4.80
210.66	34.11	1.00	145	-2.75	31.36	43.50	-12.14
259.16	37.92	1.00	199	-3.48	34.44	46.00	-11.56
301.60	40.98	1.00	168	-2.81	38.17	46.00	-7.83
322.21	36.22	1.00	178	-2.61	33.61	46.00	-12.39

Test mode: IEEE 802.11a 20M 5180MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas (3)	
Frequency (MHz)	Amplitude (dBµV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)
101.54	31.81	1.00	205	-1.04	30.77	43.50	-12.73
130.64	32.15	1.00	155	-2.69	29.46	43.50	-14.04
168.22	31.67	1.00	155	-3.65	28.02	43.50	-15.48
198.54	35.10	1.00	236	-2.85	32.25	43.50	-11.25
325.85	32.99	1.00	17	-2.58	30.41	46.00	-15.59
699.30	25.09	1.00	280	9.38	34.47	46.00	-11.53

Test Report ----- 32/56

Test mode: IEEE 802.11a 20M 5180MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Ampl	itude	Correction Factor	Corr Ampl	ected litude	Limit		Margin
			Peak .	/Ave.		Peak .	/Ave.	Peak	/Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	·V/m	dΒμ	ıV/m	dB
1658.33	1.00	194	35.33		13.42	48.75		73.96	53.96	-5.21
5150.09	1.00	30	34.66		15.30	49.96		73.96	53.96	-4.00
7701.33	1.00	270	35.78		10.83	46.61		73.96	53.96	-7.35
10360.08	1.00	209	34.60		11.51	46.11		73.96	53.96	-7.85
20720.00	1.00	285	45.83		2.35	48.18		73.96	53.96	-5.78
25901.46	1.00	238	48.47		0.64	49.11		73.96	53.96	-4.85
36259.37	1.00	186	41.54		3.79	45.33		73.96	53.96	-8.63

Test mode: IEEE 802.11a 20M 5180MHz for 1GHz to 40GHz [Vertical]

1 ESI I		oue: IEEE 802.11u 20M 5180MITZ jor 1GTZ to 40GTZ _ [aij	
Frequency		Table	Ampl	litude	Correction	Corrected		Limit		Margin
	Н.				Factor	Amp	litude			
			Peak .	/Ave.		Peak	/ Ave.	Peak	/ Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	vV/m	dΒμ	ıV/m	dB
1587.50	1.00	242	34.33		14.53	48.86		73.96	53.96	-5.10
5000.53	1.00	256	33.67		14.89	48.56		73.96	53.96	-5.40
7301.67	1.00	10	37.10		10.28	47.38		73.96	53.96	-6.58
15541.83	1.00	188	40.27		5.98	46.25		73.96	53.96	-7.71
20720.00	1.00	298	45.71		2.35	48.06		73.96	53.96	-5.90
25901.46	1.00	256	48.28		0.64	48.92		73.96	53.96	-5.04
36259.37	1.00	203	41.05		3.79	44.84		73.96	53.96	-9.12

Test Report ----- 33/56

Test mode: IEEE 802.11a 20M 5200MHz for 30MHz to 1GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	
Frequency (MHz)	Amplitude (dBµV)	Ant. H. (m)	Table ()	(dB)	(dBµV/m)	Limit (dBµV/m)	Margin (dB)
101.54	34.04	1.00	313	-1.04	33.00	43.50	-10.50
198.54	41.83	1.00	151	-2.85	38.98	43.50	-4.52
209.45	35.88	1.00	141	-2.73	33.15	43.50	-10.35
261.59	38.81	1.00	84	-3.47	35.34	46.00	-10.66
301.60	40.93	1.00	165	-2.81	38.12	46.00	-7.88
322.21	36.98	1.00	185	-2.61	34.37	46.00	-11.63

Test mode: IEEE 802.11a 20M 5200MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas (3)	-
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)
101.54	31.79	1.00	217	-1.04	30.75	43.50	-12.75
129.43	28.09	1.00	126	-2.61	25.48	43.50	-18.02
169.44	31.40	1.00	166	-3.65	27.75	43.50	-15.75
198.54	35.22	1.00	248	-2.85	32.37	43.50	-11.13
211.87	28.67	1.00	95	-2.81	25.86	43.50	-17.64
700.51	25.41	1.00	294	9.41	34.82	46.00	-11.18

Test Report ----- 34/56

Test mode: IEEE 802.11a 20M 5200MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Ampl	litude	Correction Factor	Corrected		Limit		Margin
	11.		Peak ,	/ Ave.	rucior	Amplitude Peak / Ave.		Peak / Ave.		
МН	m	degree	dB	μV	dB/m	dΒμ	·V/m	dΒμ	ıV/m	dB
3829.17	1.00	145	34.16		13.63	47.79		73.96	53.96	-6.17
4654.17	1.00	178	34.16		13.62	47.78		73.96	53.96	-6.18
7336.50	1.00	123	35.61		10.35	45.96		73.96	53.96	-8.00
10400.92	1.00	294	35.11		11.35	46.46		73.96	53.96	-7.50
26000.62	1.00	165	46.96		1.30	48.26		73.96	53.96	-5.70
36400.00	1.00	239	40.11		3.65	43.76	-	73.96	53.96	-10.20

Test mode: IEEE 802.11a 20M 5200MHz for 1GHz to 40GHz [Vertical]

	1 CSt III	mc. ILLI	2 002.110	002.11a 20M 3200MH4, jor 10			00114	<i>[veriical]</i>		1
Frequency	Ant. H.	Table	Ampl Peak		Correction Factor	Corrected Amplitude Peak / Ave.		Limit Peak / Ave.		Margin
МН	m	degree	dB	μV	dB/m	dΒμ	ıV/m	dBμV/m		dB
1616.67	1.00	0	35.83		14.07	49.90		73.96	53.96	-4.06
4825.00	1.00	141	34.66		14.25	48.91		73.96	53.96	-5.05
7409.83	1.00	64	36.44	-	10.38	46.82		73.96	53.96	-7.14
10400.92	1.00	353	34.44		11.35	45.79		73.96	53.96	-8.17
26000.62	1.00	156	47.16		1.30	48.46		73.96	53.96	-5.50
36400.00	1.00	247	40.44		3.65	44.09		73.96	53.96	-9.87

Test Report ----- 35/56

Test mode: IEEE 802.11a 20M 5240MHz for 30MHz to 1GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	
Frequency (MHz)	Amplitude (dB µV)	Ant. H. (m)	Table ()	(dB)	(dBµV/m)	Limit (dBµV/m)	Margin (dB)
101.54	33.57	1.00	328	-1.04	32.53	43.50	-10.97
112.45	34.59	1.00	346	-1.60	32.99	43.50	-10.51
198.54	42.11	1.00	166	-2.85	39.26	43.50	-4.24
287.05	39.39	1.00	115	-2.77	36.62	46.00	-9.38
299.17	41.61	1.00	187	-2.82	38.79	46.00	-7.21
323.42	38.13	1.00	198	-2.60	35.53	46.00	-10.47

Test mode: IEEE 802.11a 20M 5240MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas (3)	-
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()	(dB)	(dB μV/m)	Limit (dBµV/m)	Margin (dB)
101.54	31.45	1.00	205	-1.04	30.41	43.50	-13.09
130.64	29.86	1.00	185	-2.69	27.17	43.50	-16.33
167.01	30.81	1.00	165	-3.66	27.15	43.50	-16.35
197.32	36.25	1.00	13	-2.89	33.36	43.50	-10.14
322.39	30.03	1.00	168	-2.83	27.20	46.00	-18.80
699.30	24.81	1.00	301	9.38	34.19	46.00	-11.81

Test Report ----- 36/56

Test mode: IEEE 802.11a 20M 5240MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Amplitude		Correction Factor		ected litude	Limit		Margin
			Peak .	/ Ave.		Peak	/Ave.	Peak	/Ave.	
МН	m	degree	dB	μV	dB/m	dΒμ	·V/m	dΒμ	ıV/m	dB
1529.17	1.00	357	33.00		15.44	48.44		73.96	53.96	-5.52
4987.50	1.00	145	35.67		14.84	50.51		73.96	53.96	-3.45
5417.07	1.00	128	34.33		16.02	50.35		73.96	53.96	-3.61
7402.50	1.00	178	35.94		10.39	46.33		73.96	53.96	-7.63
10478.50	1.00	102	35.10		10.82	45.92		73.96	53.96	-8.04
26202.50	1.00	186	49.23		1.59	50.82		73.96	53.96	-3.14
36681.25	1.00	22	41.80		3.23	45.03		73.96	53.96	-8.93

Test mode: IEEE 802.11a 20M 5240MHz for 1GHz to 40GHz [Vertical]

					740111112 JOI 10			T		
Frequency	Ant.	Table	Ampl	itude	Correction	Corrected		Limit		Margin
	Н.				Factor	Ampl	litude			
						1				
			Peak .	/Ave.		Peak.	/Ave.	Peak	/Ave.	
MHz	m	degree	dB_{i}	μV	dB/m	$dB\mu$	vV/m	$dB\mu$	ιV/m	dB
1600 22	1.00	250	24.00		14.20	40.20		72.06	52.06	5.76
1608.33	1.00	359	34.00		14.20	48.20		73.96	53.96	-5.76
3979.17	1.00	240	34.50		13.99	48.49		73.96	53.96	-5.47
5417.60	1.00	336	34.50		16.02	50.52		73.96	53.96	-3.44
3417.00	1.00	330	34.30		10.02	30.32		73.70	33.70	-5.44
7545.50	1.00	19	35.61		10.54	46.15		73.96	53.96	-7.81
10478.50	1.00	255	35.10		10.82	45.92		73.96	53.96	-8.04
10170.50	1.00	200	33.10		10.02	10.72		, 5.70	33.70	0.01
26202.50	1.00	162	49.37		1.59	50.96		73.96	53.96	-3.00
36681.25	1.00	16	41.67		3.23	44.90		73.96	53.96	-9.06

Test Report ----- 37/56

Test mode: IEEE 802.11a 40M 5190MHz for 30MHz to 1GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Class B (3 m)		
Frequency (MHz)	Amplitude (dB µV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)	
101.54	33.64	1.00	333	-1.04	32.60	43.50	-10.90	
198.54	41.30	1.00	153	-2.85	38.45	43.50	-5.05	
261.59	39.53	1.00	77	-3.47	36.06	46.00	-9.94	
300.39	41.18	1.00	177	-2.83	38.35	46.00	-7.65	
322.21	41.25	1.00	177	-2.61	38.64	46.00	-7.36	
367.07	34.49	1.00	347	-1.83	32.66	46.00	-13.34	

Test mode: IEEE 802.11a 40M 5190MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	-
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)
101.54	31.35	1.00	216	-1.04	30.31	43.50	-13.19
129.43	29.57	1.00	189	-2.61	26.96	43.50	-16.54
167.01	30.15	1.00	174	-3.66	26.49	43.50	-17.01
196.11	35.91	1.00	117	-2.94	32.97	43.50	-10.53
261.59	32.57	1.00	144	-3.47	29.10	46.00	-16.90
696.87	24.70	1.00	313	9.30	34.00	46.00	-12.00

Test Report ----- 38/56

Test mode: IEEE 802.11a 40M 5190MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Ampl	litude	Correction Factor			Limit		Margin
			Peak .	/ Ave.		Peak .	/Ave.	Peak	/Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	V/m	dΒμ	ıV/m	dB
1591.67	1.00	155	34.50		14.46	48.96		73.96	53.96	-5.00
4976.51	1.00	301	36.34		14.80	51.14		73.96	53.96	-2.82
5712.50	1.00	221	34.00		16.52	50.52		73.96	53.96	-3.44
7420.83	1.00	255	35.94		10.36	46.30		73.96	53.96	-7.66
15570.42	1.00	140	40.11		5.93	46.04		73.96	53.96	-7.92
25951.04	1.00	24	49.10		0.81	49.91		73.96	53.96	-4.05
36332.50	1.00	253	41.53		3.74	45.27		73.96	53.96	-8.69

Test mode: IEEE 802.11a 40M 5190MHz for 1GHz to 40GHz [Vertical]

	1 est mo	oue: IEEI	2 002.110	1 40M 31	YUMHZ JOT 1	JAZ 10 4	WGNZ	<i>[vertical]</i>		
Frequency	Ant. H.	Table	Ampl	litude	Correction Factor	Corrected Amplitude		Limit		Margin
			Peak .	/Ave.		Peak	Peak / Ave.		/ Ave.	
MHz	m	degree	dB	μV	dB/m	dBμV/m		dΒμ	ιV/m	dB
3854.17	1.00	135	34.50		13.69	48.19		73.96	53.96	-5.77
4977.06	1.00	265	36.16	-	14.81	50.97		73.96	53.96	-2.99
5575.00	1.00	290	34.33		16.34	50.67		73.96	53.96	-3.29
7019.33	1.00	277	36.61		9.59	46.20		73.96	53.96	-7.76
15570.42	1.00	21	39.94		5.93	45.87		73.96	53.96	-8.09
25951.04	1.00	9	49.08		0.81	49.89		73.96	53.96	-4.07
36332.50	1.00	252	41.30		3.74	45.04		73.96	53.96	-8.92

Test Report ----- 39/56

Test mode: IEEE 802.11a 40M 5230MHz for 30MHz to 1GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	
Frequency (MHz)	Amplitude (dB µV)	Ant. H. (m)	Table ()	(dB)	(dBµV/m)	Limit (dBµV/m)	Margin (dB)
101.54	34.07	1.00	319	-1.04	33.03	43.50	-10.47
196.11	42.33	1.00	258	-2.94	39.39	43.50	-4.11
210.66	36.19	1.00	136	-2.75	33.44	43.50	-10.06
257.95	38.98	1.00	88	-3.46	35.52	46.00	-10.48
301.60	41.60	1.00	180	-2.81	38.79	46.00	-7.21
322.21	40.16	1.00	170	-2.61	37.55	46.00	-8.45

Test mode: IEEE 802.11a 40M 5230MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	-
Frequency (MHz)	Amplitude (dBµV)	Ant. H. (m)	Table ()	(dB)	(dBµV/m)	Limit (dBµV/m)	Margin (dB)
31.21	22.14	1.00	31	7.54	29.68	40.00	-10.32
38.49	24.41	1.00	245	4.60	29.01	40.00	-10.99
101.54	31.24	1.00	217	-1.04	30.20	43.50	-13.30
169.44	32.13	1.00	187	-3.65	28.48	43.50	-15.02
196.11	35.49	1.00	7	-2.94	32.55	43.50	-10.95
699.30	25.27	1.00	282	9.38	34.65	46.00	-11.35

Test Report ------ 40/56

Test mode: IEEE 802.11a 40M 5230MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Amplitude		Correction Factor		ected litude	Limit		Margin
			Peak .	/ Ave.		Peak .	/Ave.	Peak	/ Ave.	
МН	m	degree	dB	μV	dB/m	dΒμ	vV/m	dΒμ	ιV/m	dB
1483.33	1.00	249	35.00		15.95	50.95		73.96	53.96	-3.01
4987.50	1.00	120	36.17		14.84	51.01		73.96	53.96	-2.95
5460.00	1.00	35	35.17		16.13	51.30		73.96	53.96	-2.66
7338.33	1.00	186	35.60		10.36	45.96		73.96	53.96	-8.00
10462.17	1.00	317	34.11		10.93	45.04		73.96	53.96	-8.92
26149.37	1.00	218	49.33		0.92	50.25		73.96	53.96	-3.71
36608.12	1.00	273	40.50		3.40	43.90		73.96	53.96	-10.06

Test mode: IEEE 802.11a 40M 5230MHz for 1GHz to 40GHz [Vertical]

Frequency	Ant.	Table	Ampl	litude	Correction	Corr	Corrected		Limit	
	Н.				Factor	Amplitude				
			Peak .	/ Ave.		Peak	/Ave.	Peak	/ Ave.	
МН	m	degree	dB	μV	dB/m	dΒμ	vV/m	dΒμ	ιV/m	dB
1620.83	1.00	124	35.16		14.01	49.17		73.96	53.96	-4.79
5410.67	1.00	0	34.17		16.00	50.17		73.96	53.96	-3.79
5683.33	1.00	12	33.66		16.48	50.14		73.96	53.96	-3.82
7413.50	1.00	100	36.27		10.38	46.65		73.96	53.96	-7.31
15692.92	1.00	134	40.11		5.99	46.10		73.96	53.96	-7.86
26149.37	1.00	191	48.94		0.92	49.86		73.96	53.96	-4.10
36608.12	1.00	272	40.71		3.40	44.11		73.96	53.96	-9.85

Test Report ------ 41/56

Test mode: IEEE 802.11a 5745MHz for 1GHz to 40GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	
Frequency (MHz)	Amplitude (dBµV)	Ant. H. (m)	Table ()	(dB)	(dBµV/m)	Limit (dBµV/m)	Margin (dB)
101.54	33.55	1.00	326	-1.04	32.51	43.50	-10.99
198.54	42.01	1.00	155	-2.85	39.16	43.50	-4.34
227.65	37.26	1.00	148	-3.25	34.01	46.00	-11.99
259.16	41.39	1.00	108	-3.48	37.91	46.00	-8.09
300.39	41.27	1.00	168	-2.83	38.44	46.00	-7.56
369.50	34.75	1.00	17	-1.76	32.99	46.00	-13.01

Test mode: IEEE 802.11a 5745MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude		Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)	
100.32	31.30	1.00	220	-0.98	30.32	43.50	-13.18	
128.21	29.35	1.00	190	-2.54	26.81	43.50	-16.69	
167.01	32.32	1.00	190	-3.66	28.66	43.50	-14.84	
197.32	35.19	1.00	230	-2.89	32.30	43.50	-11.20	
323.42	29.87	1.00	43	-2.60	27.27	46.00	-18.73	
696.87	25.35	1.00	294	9.30	34.65	46.00	-11.35	

Test Report ------ 42/56

Test mode: IEEE 802.11a 5745MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Amplitude		Correction Factor	Corrected Amplitude		Limit		Margin
			Peak .	/ Ave.		Peak	/ Ave.	Peak .	/ Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	vV/m	dΒμ	vV/m	dB
1550.00	1.00	274	34.33		15.11	49.44		73.96	53.96	-4.52
4991.67	1.00	92	36.67		14.86	51.53		73.96	53.96	-2.43
7417.17	1.00	112	36.11		10.37	46.48		73.96	53.96	-7.48
17236.42	1.00	286	35.27		15.41	50.68		73.96	53.96	-3.28
22979.58	1.00	37	44.54		3.73	48.27		73.96	53.96	-5.69
34470.62	1.00	310	39.16		4.70	43.86		73.96	53.96	-10.10

Test mode: IEEE 802.11a 5745MHz for 1GHz to 40GHz [Vertical]

Frequency	Ant.	Table	Ampl	litude	Correction	Corr	ected	Limit		Margin
	Н.		-		Factor	Ampl	litude			
			Peak .	/ Ave.		Peak	/Ave.	Peak	/Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	V/m	dΒμ	ıV/m	dB
1658.33	1.00	0	35.17		13.42	48.59		73.96	53.96	-5.37
4916.67	1.00	45	34.50		14.58	49.08		73.96	53.96	-4.88
7712.33	1.00	235	35.27		10.80	46.07		73.96	53.96	-7.89
17236.42	1.00	95	33.77		15.41	49.18		73.96	53.96	-4.78
22979.58	1.00	25	44.77		3.73	48.50		73.96	53.96	-5.46
34470.62	1.00	307	38.89		4.70	43.59		73.96	53.96	-10.37

Test Report ------ 43/56

Test mode: IEEE 802.11a 5785MHz for 30MHz to 1GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	
Frequency (MHz)	Amplitude (dB µV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)
101.54	33.90	1.00	320	-1.04	32.86	43.50	-10.64
197.32	42.34	1.00	150	-2.89	39.45	43.50	-4.05
226.42	36.35	1.00	130	-3.23	33.12	46.00	-12.88
260.37	38.20	1.00	90	-3.48	34.72	46.00	-11.28
301.60	40.65	1.00	173	-2.81	37.84	46.00	-8.16
321.00	35.87	1.00	183	-2.62	33.25	46.00	-12.75

Test mode: IEEE 802.11a 5785MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas (3)	-
Frequency (MHz)	Amplitude (dBµV)	Ant. H. (m)	Table (°)	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)
100.32	32.30	1.00	195	-0.98	31.32	43.50	-12.18
130.64	30.42	1.00	145	-2.69	27.73	43.50	-15.77
167.01	32.68	1.00	195	-3.66	29.02	43.50	-14.48
197.32	34.89	1.00	225	-2.89	32.00	43.50	-11.50
301.60	30.94	1.00	155	-2.81	28.13	46.00	-17.87
696.87	25.53	1.00	294	9.30	34.83	46.00	-11.17

Test Report ------ 44/56

Test mode: IEEE 802.11a 5785MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Amplitude		Correction Factor	Corrected Amplitude		Limit		Margin
			Peak .	/ Ave.		Peak.	/Ave.	Peak	/ Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	V/m	dΒμ	ıV/m	dB
1554.17	1.00	318	33.66		15.05	48.71		73.96	53.96	-5.25
4983.33	1.00	136	36.00		14.83	50.83		73.96	53.96	-3.13
7354.83	1.00	23	35.78		10.39	46.17		73.96	53.96	-7.79
17354.83	1.00	329	33.77		17.00	50.77		73.96	53.96	-3.19
23142.50	1.00	148	45.24		3.60	48.84		73.96	53.96	-5.12
34712.50	1.00	167	40.35		4.27	44.62		73.96	53.96	-9.34

Test mode: IEEE 802.11a 5785MHz for 1GHz to 40GHz [Vertical]

Frequency	Ant. H.	Table	Ampl	litude	Correction Factor	Corrected Amplitude		Limit		Margin
			Peak .	/ Ave.		Peak	/Ave.	Peak	/Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	ıV/m	dΒμ	ιV/m	dB
1495.83	1.00	50	33.00		15.90	48.90		73.96	53.96	-5.06
4983.33	1.00	263	35.00		14.83	49.83		73.96	53.96	-4.13
7452.00	1.00	79	36.27		10.31	46.58		73.96	53.96	-7.38
17354.83	1.00	275	34.60		17.00	51.60		73.96	53.96	-2.36
23142.50	1.00	157	45.08		3.60	48.68		73.96	53.96	-5.28
34712.50	1.00	190	40.22		4.27	44.49		73.96	53.96	-9.47

Test Report ------ 45/56

Test mode: IEEE 802.11a 5805MHz for 30MHz to 1GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	(2		
Frequency (MHz)	Amplitude (dB µV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)	
100.32	33.34	1.00	313	-0.98	32.36	43.50	-11.14	
197.32	42.22	1.00	141	-2.89	39.33	43.50	-4.17	
259.16	36.82	1.00	81	-3.48	33.34	46.00	-12.66	
301.60	41.42	1.00	161	-2.81	38.61	46.00	-7.39	
321.00	35.45	1.00	195	-2.62	32.83	46.00	-13.17	
365.86	35.36	1.00	316	-1.87	33.49	46.00	-12.51	

Test mode: IEEE 802.11a 5805MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	-
Frequency (MHz)	Amplitude (dBµV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)
100.32	30.84	1.00	205	-0.98	29.86	43.50	-13.64
129.43	28.11	1.00	155	-2.61	25.50	43.50	-18.00
167.01	32.14	1.00	165	-3.66	28.48	43.50	-15.02
197.32	35.41	1.00	246	-2.89	32.52	43.50	-10.98
302.81	30.68	1.00	145	-2.80	27.88	46.00	-18.12
696.87	26.15	1.00	287	9.30	35.45	46.00	-10.55

Test Report ------ 46/56

Test mode: IEEE 802.11a 5805MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Amplitude		Correction Factor	Corrected Amplitude		Limit		Margin
			Peak .	/ Ave.		Peak.	/Ave.	Peak	/ Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	V/m	dΒμ	ıV/m	dB
1716.67	1.00	0	34.67		12.51	47.18		73.96	53.96	-6.78
2487.50	1.00	284	39.50		9.45	48.95		73.96	53.96	-5.01
7283.33	1.00	66	35.44		10.23	45.67		73.96	53.96	-8.29
17416.08	1.00	117	33.78		15.58	49.36		73.96	53.96	-4.60
23220.42	1.00	220	43.83		3.75	47.58		73.96	53.96	-6.38
34830.62	1.00	59	40.14		4.42	44.56		73.96	53.96	-9.40

Test mode: IEEE 802.11a 5805MHz for 1GHz to 40GHz [Vertical]

Frequency	Ant. H.	Table	Ampl	litude	Correction Factor	Corrected Amplitude		Limit		Margin
			Peak .	/ Ave.		Peak	/Ave.	Peak	/Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	ıV/m	dΒμ	ιV/m	dB
1616.67	1.00	207	36.50	-	14.07	50.57		73.96	53.96	-3.39
7294.33	1.00	15	35.94		10.26	46.20		73.96	53.96	-7.76
11609.58	1.00	34	35.60		10.19	45.79		73.96	53.96	-8.17
17416.08	1.00	251	33.61		15.58	49.19		73.96	53.96	-4.77
23220.42	1.00	234	44.00		3.75	47.75		73.96	53.96	-6.21
29025.62	1.00	299	42.49		1.94	44.43		73.96	53.96	-9.53

Test Report ------ 47/56

Test mode: IEEE 802.11a 20M 5745MHz for 30MHz to 1GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	
Frequency (MHz)	Amplitude (dB µV)	Ant. H. (m)	Table ()	(dB)	(dBµV/m)	Limit (dBµV/m)	Margin (dB)
101.54	33.99	1.00	321	-1.04	32.95	43.50	-10.55
198.54	42.29	1.00	139	-2.85	39.44	43.50	-4.06
211.87	35.99	1.00	103	-2.81	33.18	43.50	-10.32
257.95	40.19	1.00	303	-3.46	36.73	46.00	-9.27
300.39	40.73	1.00	153	-2.83	37.90	46.00	-8.10
322.21	37.49	1.00	196	-2.62	34.87	46.00	-11.13

Test mode: IEEE 802.11a 20M 5745MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	-
Frequency (MHz)	Amplitude (dBµV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)
101.54	31.95	1.00	225	-1.04	30.91	43.50	-12.59
129.43	31.45	1.00	175	-2.61	28.84	43.50	-14.66
168.22	31.34	1.00	185	-3.65	27.69	43.50	-15.81
198.54	34.61	1.00	246	-2.85	31.76	43.50	-11.74
259.16	31.76	1.00	118	-3.48	28.28	46.00	-17.72
324.64	33.18	1.00	0	-2.59	30.59	46.00	-15.41

Test Report ------ 48/56

Test mode: IEEE 802.11a 20M 5745MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Amplitude		Correction Factor	Corrected Amplitude		Limit		Margin
			Peak .	/ Ave.		Peak	/ Ave.	Peak .	/ Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	vV/m	dΒμ	vV/m	dB
1550.00	1.00	358	33.33		15.11	48.44		73.96	53.96	-5.52
4979.17	1.00	109	35.50	-	14.81	50.31		73.96	53.96	-3.65
7873.67	1.00	200	35.94		10.93	46.87		73.96	53.96	-7.09
17236.42	1.00	290	34.10		15.41	49.51		73.96	53.96	-4.45
22979.58	1.00	31	44.62		3.73	48.35		73.96	53.96	-5.61
34470.62	1.00	335	39.04		4.70	43.74		73.96	53.96	-10.22

Test mode: IEEE 802.11a 20M 5745MHz for 1GHz to 40GHz [Vertical]

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Frequency	Ant.	Table	Amplitude		Correction	Corrected		Limit		Margin
	Н.				Factor	Ampl	litude			
			Peak .	/ Ave.		Peak .	/ Ave.	Peak .	/ Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	vV/m	dΒμ	vV/m	dB
1508.33	1.00	333	33.33		15.76	49.09		73.96	53.96	-4.87
5087.50	1.00	112	34.50		15.13	49.63		73.96	53.96	-4.33
7413.50	1.00	32	36.10		10.38	46.48		73.96	53.96	-7.48
17236.42	1.00	302	33.10		15.41	48.51		73.96	53.96	-5.45
22979.58	1.00	26	44.38		3.73	48.11		73.96	53.96	-5.85
34470.62	1.00	321	38.85		4.70	43.55		73.96	53.96	-10.41

Test Report ------ 49/56

Test mode: IEEE 802.11a 20M 5785MHz for 30MHz to 1GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	
Frequency (MHz)	Amplitude (dB µV)	Ant. H. (m)	Table ()	(dB)	(dBμV/m)	Limit (dBµV/m)	Margin (dB)
101.54	33.78	1.00	307	-1.04	32.74	43.50	-10.76
196.11	41.77	1.00	157	-2.94	38.83	43.50	-4.67
211.87	36.80	1.00	86	-2.81	33.99	43.50	-9.51
257.95	42.31	1.00	96	-3.46	38.85	46.00	-7.15
288.26	38.30	1.00	57	-2.73	35.57	46.00	-10.43
300.39	41.65	1.00	160	-2.83	38.82	46.00	-7.18

Test mode: IEEE 802.11a 20M 5785MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	-
Frequency (MHz)	Amplitude (dBµV)	Ant. H. (m)	Table ()	(dB)	(dBµV/m)	Limit (dBµV/m)	Margin (dB)
101.54	32.52	1.00	201	-1.04	31.48	43.50	-12.02
130.64	29.04	1.00	95	-2.69	26.35	43.50	-17.15
168.22	32.40	1.00	159	-3.65	28.75	43.50	-14.75
196.11	36.10	1.00	85	-2.94	33.16	43.50	-10.34
213.09	29.27	1.00	275	-2.86	26.41	43.50	-17.09
700.51	25.94	1.00	294	9.41	35.35	46.00	-10.65

Test Report ----- 50/56

Test mode: IEEE 802.11a 20M 5785MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Amplitude		Correction Factor	Corrected Amplitude		Limit		Margin
			Peak .	/ Ave.		Peak .	/Ave.	Peak	/ Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	V/m	dΒμ	ıV/m	dB
1541.67	1.00	138	33.67		15.24	48.91		73.96	53.96	-5.05
4979.17	1.00	297	35.50		14.81	50.31		73.96	53.96	-3.65
7305.33	1.00	166	36.28		10.28	46.56		73.96	53.96	-7.40
17354.83	1.00	335	32.94		17.00	49.94		73.96	53.96	-4.02
23142.50	1.00	154	44.79		3.60	48.39		73.96	53.96	-5.57
34712.50	1.00	187	40.35		4.27	44.62		73.96	53.96	-9.34

Test mode: IEEE 802.11a 20M 5785MHz for 1GHz to 40GHz [Vertical]

	Test mode: IEEE 002.11d 20M 5/05MHz for 1GHz to 40GHz							[veriicai]			
Frequency	Ant. H.	Table	Ampl Peak		Correction Factor	Corrected Amplitude Peak / Ave.		Limit Peak / Ave.		Margin	
MHz	m	degree	dB	μV	dB/m	dΒμ	ıV/m	dΒμ	dBμV/m		
1495.83	1.00	176	34.34		15.90	50.24		73.96	53.96	-3.72	
4979.17	1.00	255	35.67	-	14.81	50.48		73.96	53.96	-3.48	
7452.00	1.00	114	35.94		10.31	46.25		73.96	53.96	-7.71	
17354.83	1.00	350	33.94		17.00	50.94		73.96	53.96	-3.02	
23142.50	1.00	138	45.02		3.60	48.62		73.96	53.96	-5.34	
34712.50	1.00	183	40.57		4.27	44.84		73.96	53.96	-9.12	

Test Report ----- 51/56

Test mode: IEEE 802.11a 20M 5805MHz for 30MHz to 1GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	
Frequency (MHz)	Amplitude (dBµV)	Ant. H. (m)	Table ()	(dB)	(dBμV/m)	Limit (dBµV/m)	Margin (dB)
101.54	34.14	1.00	308	-1.04	33.10	43.50	-10.40
198.54	41.69	1.00	142	-2.85	38.84	43.50	-4.66
209.45	37.74	1.00	121	-2.73	35.01	43.50	-8.49
227.64	36.99	1.00	145	-3.25	33.74	46.00	-12.26
260.37	41.98	1.00	135	-3.48	38.50	46.00	-7.50
301.60	41.23	1.00	166	-2.81	38.42	46.00	-7.58

Test mode: IEEE 802.11a 20M 5805MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	-
Frequency (MHz)	Amplitude (dBµV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)
101.54	32.17	1.00	222	-1.04	31.13	43.50	-12.37
131.85	31.04	1.00	128	-2.78	28.26	43.50	-15.24
168.22	32.36	1.00	170	-3.65	28.71	43.50	-14.79
198.54	34.54	1.00	239	-2.85	31.69	43.50	-11.81
323.42	32.80	1.00	353	-2.60	30.20	46.00	-15.80
696.87	25.21	1.00	287	9.30	34.51	46.00	-11.49

Test Report ----- 52/56

Test mode: IEEE 802.11a 20M 5805MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Amplitude		Correction Factor		ected litude	Limit		Margin
			Peak ,	/ Ave.		Peak	/ Ave.	Peak .	/ Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	vV/m	dΒμ	vV/m	dB
1566.67	1.00	352	34.67		14.85	49.52		73.96	53.96	-4.44
4983.33	1.00	126	36.00	-	14.83	50.83		73.96	53.96	-3.13
7039.50	1.00	241	36.77		9.58	46.35		73.96	53.96	-7.61
17416.08	1.00	296	33.11		15.58	48.69		73.96	53.96	-5.27
23220.42	1.00	231	44.20		3.75	47.95		73.96	53.96	-6.01
29025.62	1.00	308	42.55		1.94	44.49		73.96	53.96	-9.47

Test mode: IEEE 802.11a 20M 5805MHz for 1GHz to 40GHz [Vertical]

	1 est me	St mode: IEEE 802.11a 20M 5805MHz for 1GHz to 40GHz		UIII	[vertical]					
Frequency	Ant. H.	Table	Ampl		Correction Factor	Corrected Amplitude Peak / Ave.		Limit Peak / Ave.		Margin
МНг	т	degree	Peak dB		dB/m		V/m	dBμV/m		dB
1529.17	1.00	40	33.66		15.44	49.10		73.96	53.96	-4.86
5458.33	1.00	184	34.50		16.13	50.63		73.96	53.96	-3.33
7921.33	1.00	360	35.94		10.88	46.82		73.96	53.96	-7.14
17416.08	1.00	6	34.78		15.58	50.36		73.96	53.96	-3.60
23220.42	1.00	232	43.77		3.75	47.52		73.96	53.96	-6.44
29025.62	1.00	295	42.41	-	1.94	44.35		73.96	53.96	-9.61

Test Report ----- 53/56

Test mode: IEEE 802.11a 40M 5755MHz for 30MHz to 1GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	-
Frequency (MHz)	Amplitude (dB µV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)
101.54	33.88	1.00	326	-1.04	32.84	43.50	-10.66
198.54	41.90	1.00	163	-2.85	39.05	43.50	-4.45
209.45	37.26	1.00	115	-2.73	34.53	43.50	-8.97
257.95	40.23	1.00	132	-3.46	36.77	46.00	-9.23
300.39	40.71	1.00	166	-2.83	37.88	46.00	-8.12
322.21	40.27	1.00	166	-2.61	37.66	46.00	-8.34

Test mode: IEEE 802.11a 40M 5755MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Clas	-
Frequency (MHz)	Amplitude (dBµV)	Ant. H. (m)	Table ()	(dB)	(dBµV/m)	Limit (dBµV/m)	Margin (dB)
31.21	22.58	1.00	28	7.54	30.12	40.00	-9.88
101.54	30.88	1.00	191	-1.04	29.84	43.50	-13.66
130.64	31.32	1.00	155	-2.69	28.63	43.50	-14.87
168.22	31.95	1.00	155	-3.65	28.30	43.50	-15.20
196.11	35.75	1.00	138	-2.94	32.81	43.50	-10.69
696.87	25.25	1.00	294	9.30	34.55	46.00	-11.45

Test Report ----- 54/56

Test mode: IEEE 802.11a 40M 5755MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Amplitude		Correction Factor	Corrected Amplitude		Limit		Margin
			Peak .	/ Ave.		Peak	/ Ave.	Peak	/Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	·V/m	dΒμ	ıV/m	dB
1604.17	1.00	301	33.83		14.27	48.10		73.96	53.96	-5.86
3675.00	1.00	360	34.50		13.25	47.75		73.96	53.96	-6.21
7354.83	1.00	36	36.28		10.39	46.67		73.96	53.96	-7.29
17265.00	1.00	270	33.10		15.70	48.80		73.96	53.96	-5.16
23181.46	1.00	319	45.09		3.60	48.69		73.96	53.96	-5.27
34532.50	1.00	235	40.60		4.57	45.17		73.96	53.96	-8.79

Test mode: IEEE 802.11a 40M 5755MHz for 1GHz to 40GHz [Vertical]

								reruc	··· <i>j</i>	
Frequency	Ant.	Table	Ampl	itude	Correction	Corrected		Limit		Margin
	Н.				Factor	Ampl	litude			
			Peak .	/ Ave.		Peak	/Ave.	Peak	/ Ave.	
MHz	m	degree	dB	μV	dB/m	dΒμ	vV/m	dΒμ	ιV/m	dB
1658.33	1.00	214	35.50		13.42	48.92		73.96	53.96	-5.04
4983.33	1.00	271	35.67		14.83	50.50		73.96	53.96	-3.46
7340.17	1.00	311	35.78		10.36	46.14		73.96	53.96	-7.82
17265.00	1.00	3	34.27		15.70	49.97		73.96	53.96	-3.99
23181.46	1.00	296	44.56		3.60	48.16		73.96	53.96	-5.80
34532.50	1.00	225	40.93		4.57	45.50		73.96	53.96	-8.46

Test Report ----- 55/56

Test mode: IEEE 802.11a 40M 5795MHz for 30MHz to 1GHz [Horizontal]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Class B (3 m)		
Frequency (MHz)	Amplitude (dB µV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)	
101.54	33.85	1.00	329	-1.04	32.81	43.50	-10.69	
198.54	41.48	1.00	146	-2.85	38.63	43.50	-4.87	
228.85	39.63	1.00	95	-3.26	36.37	46.00	-9.63	
259.16	42.01	1.00	129	-3.48	38.53	46.00	-7.47	
301.60	40.63	1.00	170	-2.81	37.82	46.00	-8.18	
322.21	40.43	1.00	180	-2.61	37.82	46.00	-8.18	

Test mode: IEEE 802.11a 40M 5795MHz for 30MHz to 1GHz [Vertical]

	Radiat Emissi			Correction Factors	Corrected Amplitude	Class B (3 m)		
Frequency (MHz)	Amplitude (dBµV)	Ant. H. (m)	Table ()	(dB)	(dB µV/m)	Limit (dBµV/m)	Margin (dB)	
101.54	31.88	1.00	203	-1.04	30.84	43.50	-12.66	
168.22	32.54	1.00	150	-3.65	28.89	43.50	-14.61	
196.11	36.00	1.00	0	-2.94	33.06	43.50	-10.44	
257.95	32.90	1.00	335	-3.46	29.44	46.00	-16.56	
322.21	32.06	1.00	356	-2.61	29.45	46.00	-16.55	
696.87	31.30	1.00	287	3.30	34.60	46.00	-11.40	

Test Report ----- 56/56

Test mode: IEEE 802.11a 40M 5795MHz for 1GHz to 40GHz [Horizontal]

Frequency	Ant. H.	Table	Ampl	litude	Correction Factor	Corrected Amplitude		Limit		Margin
			Peak / Ave.			Peak / Ave.		Peak / Ave.		
MHz	m	degree	$dB\mu V$		dB/m	dΒμ	V/m	dBμV/m		dB
1658.33	1.00	97	35.33		13.42	48.75		73.96	53.96	-5.21
4983.33	1.00	110	37.33		14.83	52.16		73.96	53.96	-1.80
7030.33	1.00	280	36.28		9.58	45.86		73.96	53.96	-8.10
17383.42	1.00	260	33.61		16.94	50.55		73.96	53.96	-3.41
23181.46	1.00	315	45.03		3.60	48.63		73.96	53.96	-5.33
34768.75	1.00	347	41.02		4.33	45.35	-	73.96	53.96	-8.61

Test mode: IEEE 802.11a 40M 5795MHz for 1GHz to 40GHz [Vertical]

	1 CSt III	est mode: TEEE 802.11d 40M 5/95MH4 for TOH4 to 40GH4 fverucuij						uij	1	
Frequency	Ant. H.	Table	Ampl Peak		Correction Factor	Corrected Amplitude Peak / Ave.		Limit Peak / Ave.		Margin
MHz	m	degree	dBμV		dB/m	dΒμ	ıV/m	dBμV/m		dB
1579.17	1.00	287	35.00		14.66	49.66		73.96	53.96	-4.30
4016.67	1.00	46	34.66	-	14.01	48.67		73.96	53.96	-5.29
7021.17	1.00	128	37.77	-	9.59	47.36		73.96	53.96	-6.60
17383.42	1.00	236	34.61		16.94	51.55		73.96	53.96	-2.41
23181.46	1.00	304	44.78	-	3.60	48.38		73.96	53.96	-5.58
34768.75	1.00	324	41.26		4.33	45.59		73.96	53.96	-8.37