



EMI TEST REPORT

Test Report No. : 24GE0302-HO-2

Applicant : CONTEC CO., LTD.
Type of Equipment : Wireless LAN Access Point
Model No. : FX-DS540-APDL
Test standard : FCC Part 15 Subpart E
Section 15.407 : 2004
FCC ID : PQRDS540-APDL
Test Result : Complied

1. This test report shall not be reproduced in full or partial, without the written approval of UL Apex Co., Ltd.
2. The results in this report apply only to the sample tested.
3. This equipment is in compliance with above regulation. We hereby certify that the data contain a true representation of the EMC profile.
4. The test results in this report are traceable to the national or international standards.

Date of test:

July 7, 2004 to July 23, 2004

Tested by:

M. Fujimura

Mitsuru Fujimura
EMC Service

Tested by :

S. Umeyama

Hiroka Umeyama
EMC Service

Tested by :

M. Kosaka

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Approved by :

Naoki Sakamoto

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SECTION 1: Client information

Company Name : CONTEC CO., LTD.
Address : 3-9-31, Himesato, Nishiodogawa-ku, Osaka, 555-0025 Japan
Telephone Number : +81-6-6477-1363
Facsimile Number : +81-6-6477-7245
Contact Person : Naoki Ikeda

SECTION 2: Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment : Wireless LAN Access Point
Model No. : FX-DS540-APDL
Serial No. : 3IRBG10000057
Rating : DC3.3V, 1.6A
Country of Manufacture : Japan
Receipt Date of Sample : June 7, 2004
Condition of EUT : Production prototype
(Not for Sale: This sample is equivalent to mass-produced items.)

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2.2 Product Description

[W-LAN:IEEE802.11a]

Equipment Type : Transceiver
Frequency of operation : 5180-5320MHz / 5745-5805MHz
Channel Support : 5180,5200,5220,5240,5260,5280,5300,5320MHz / 5745,5765,5785,5805MHz
Modulation Techniques : OFDM
Channel number : 12channels
Power control : Non
Mode of operation : Simplex
Antenna Type : Chip Antenna
Antenna Gain : 3.0dBi
Antenna Connector Type : AYU3
Operating voltage (inner) : DC3.3V

Remarks : This Wireless Module consists of 1 chip each of 5GHz band.

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FCC 15.31 (e)

This EUT provides stable voltage(DC3.3V) constantly to RF Module regardless of input voltage. Therefore, this EUT complies with the requirement.

FCC Part 15.407(d) Antenna requirement

The antenna is not removable from EUT. Therefore, the equipment complies with the antenna requirement of Section 15.203.

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SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part15 Subpart E : 2004

Title : FCC 47CFR Part15 Radio Frequency Device
Subpart E Unlicensed National Information Infrastructure Devices
Section 15.407 General technical requirements

3.2 Procedures and results

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	26dB Emission Bandwidth	ANSI C63.4:2003	Section 15.407(a)(1)(2)(3)	-	N/A	*See data	Complied
2	Peak Transmit Power	ANSI C63.4:2003	Section 15.407(a)(1)(2)(3)	Conducted	N/A		Complied
3	Peak Power Spectral Density	ANSI C63.4:2003	Section 15.407(a)(1)(2)(3)	Conducted	N/A		Complied
4	Peak Excursion Ratio	ANSI C63.4:2003	Section 15.407(a)(6)	Conducted	N/A		Complied
5	Spurious Emission	ANSI C63.4:2003	Section 15.407(b)(1)(2)(3)(4)(5)	Conducted	N/A		Complied
6	Spurious Emission	ANSI C63.4:2003	(6)(7) 15.205/15.209	Radiated	N/A	*See data	Complied
7	AC Conducted Emission	ANSI C63.4:2003	Section 15.407(b)(6)/15.207	-	N/A	*See data	Complied
8	Band Edge Compliance	ANSI C63.4:2003	Section 15.407(b)(7)/15.205	Conducted Radiated	N/A	*See data	Complied

Note: UL Apex's EMI Work Procedures No.QPM05 and QPM15.

Uncertainty:

*In case of the margin below the EMC Head Office's uncertainty.

The data listed in this report meets the limits unless the uncertainty is taken into consideration.

Conducted Emission

The measurement uncertainty (with a 95% confidence level) for this test is $\pm 1.3\text{dB}$.

Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is $\pm 4.5\text{dB}(3\text{m})/\pm 4.7\text{dB}(10\text{m})$.

The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is $\pm 5.2\text{dB}(3\text{m})/\pm 3.8\text{dB}(10\text{m})$.

The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is $\pm 6.6\text{dB}$.

Other test except Conducted Emission and Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test is $\pm 3.0\text{dB}$.

*These tests were also referred to FCC Public Notice DA 02-2138 "Measurement Procedure Updated for Peak Transmit Power in the Unlicensed National Information Infrastructure (U-NII) Bands".

*These tests were performed without any deviations from test procedure except for additions or exclusions.

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3.3 Addition to standards

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	99% Occupied Band Width	RSS210(issue 5): 2001 + Amendment:2002 + Amendment2:2003 + Amendment3:2004	RSS210(issue 5): 2001 + Amendment:2002 + Amendment2:2003 + Amendment3:2004	Conducted	N/A	N/A	N/A

3.4 Test Location

UL Apex Co., Ltd. Head Office EMC Lab. *NVLAP Lab. code: 200572-0
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	Listed date (for FCC)	FCC Registration Number	IC Registration Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Other rooms
No.1 semi-anechoic chamber	February 01, 2002	313583	IC4247	19.2 x 11.2 x 7.7m	7.0 x 6.0m	Preparation room
No.2 semi-anechoic chamber	June 05, 2002	846015	IC4247-2	7.5 x 5.8 x 5.2m	4.0 x 4.0m	-
No.3 shielded room	-	-	-	4.7 x 7.5 x 2.7m	4.7 x 7.5m	-
No.4 shielded room	-	-	-	3.1 x 5.0 x 2.7m	N/A	-

* Size of vertical conducting plane (for Conducted Emission test) : 2.0 x 2.0m for No.1 and No.2 semi-anechoic and No.3 shielded room.

3.5 Test set up, Test instruments and Data of EMI

Refer to APPENDIX 1 to 3.

SECTION 4: Operation of E.U.T. during testing

4.1 Operating Modes

The EUT was operating in a manner similar to typical use during the tests.

PacketType : Maximum
Payload : PN9
Operation : Transmitting mode (OFDM 54Mbps)
Channel 36: 5180MHz
Channel 52: 5260MHz
Channel 64: 5320MHz
Channel 149: 5745MHz
Channel 153: 5765MHz
Channel 161: 5805MHz

Remarks

The antennas of this EUT are diversity type (ANT1 and ANT2). These diversity antennas are identical to each other in type, gain and cable length.

They are built in the EUT at the symmetrical location.

There is no difference in radio characteristics between ANT1 and ANT2; therefore, the testing was conducted with the representative antenna, ANT1.

The EUT has an ability to provide some different modulation and data rates. Some of these modulation and data rates did not change in the spectrum envelopes of the EUT at conducted Measurement with the antenna terminal. Therefore, the results of the final measurements were 54Mbps modulation as the highest data rate.

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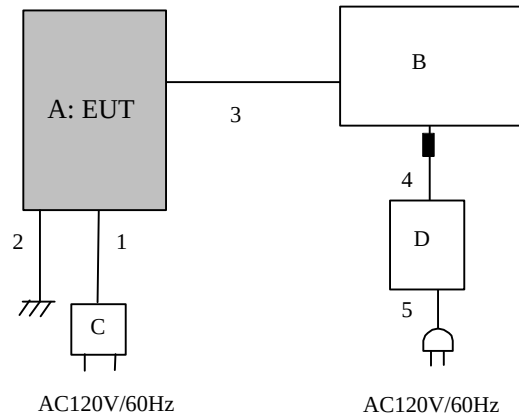
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4.2 Configuration and peripherals



■ : Ferrite Core

* Cabling was taken into consideration and test data was taken under worse case conditions.

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	FCC ID
A	WLAN Access Point	FX-DS540-APDL	3IRBG10000057	CONTEC	PQRDS540-APDL
B	Note PC	G40	KM-1640G 0312	IBM	DOC
C	AC Adapter	A10P1-33MP	-	AK-II	-
D	AC Adapter	02K7095	11S02K7095Z1Z6 C73BJ26X	IBM	-

List of cables used

No.	Name	Length (m)	Shield	Backshell Material
1	DC Cable	1.5	N	Polyvinyl chloride
2	Earth Cable	1.5	N	Polyvinyl chloride
3	LAN Cross Cable	1.5	N	Polyvinyl chloride
4	DC Cable	1.8	N	Polyvinyl chloride
5	AC Cable	1.0	N	Polyvinyl chloride

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SECTION 5: Conducted Emission, Section 15.407(b)(5) / 15.207

Test Procedure

EUT was placed on a platform of nominal size, 0.5m by 0.5m, raised 80cm above the conducting ground plane. The rear of tabletop was located 40cm to the vertical conducting plane. The rear of EUT, including peripherals aligned and flushed with rear of tabletop. All other surfaces of tabletop were at least 80cm from any other grounded conducting surface. EUT was located 80cm from a Line Impedance Stabilization Network (LISN)/ Artificial mains Network (AMN) and excess AC cable was bundled in center.

1) For the tests on EUT with other peripherals (as a whole system)

I/O cable and AC cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30cm to 40cm long and were hanged at a 40cm height to the ground plane.

2) For the tests on EUT itself (as a stand alone equipment)

Each EUT current-carrying power lead, except the ground (safety) lead, was individually connected through a LISN/(AMN) to the input power source. All unused 50ohm connectors of the LISN(AMN) were resistively terminated in 50ohm when not connected to the measuring equipment.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT in a Semi Anechoic Chamber or a Measurement Room.

The EUT was connected to a LISN (AMN).

An overview sweep with peak detection has been performed.

The measurements have been performed with a CISPR quasi-peak detector (IF BW 9 kHz).

Measurement range: 0.15-30MHz

Test data : APPENDIX 3

Test result : Pass

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SECTION 6: Spurious Emission , Band Edge Compliance 15.407(b)(1)(2)(3)(4)(6)(7)

[Conducted]

Test Procedure

The Out of Band Emission was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3
Test result : Pass

[Radiated]

Test Procedure

EUT was placed on a platform of nominal size, 0.5m by 0.5m, raised 80cm above the conducting ground plane. The Radiated Electric Field Strength intensity has been measured in a Semi Anechoic Chamber with a ground plane and at a distance of 3m(Below 10GHz) , 1m(10-26.5GHz, Distance Factor : $20\log(3[m]/1[m])$) and 0.5m(Upper 26.5GHz, Distance Factor : $20\log(3[m]/0.5[m])$).

The height of the measuring varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

The measurements were performed for both vertical and horizontal antenna polarization with the Test Receiver or the Spectrum Analyzer.

Below 1GHz

The result also satisfied with the general limits specified in section 15.209(a).

Above 1GHz

Inside of the restricted bands (Section 15.205) : Apply to limit in the Section 15.209(a)

Outside of the restricted bands (Section 15.205) : Limit -27dBm EIRP

-17dBm EIRP (5.725-5.825GHz Band Edge)

Frequency	Below 1GHz	Above 1GHz (Inside of the restricted bands)	Above 1GHz (Outside of the restricted bands)
Instrument use	Test Receiver	Spectrum Analyzer	Spectrum Analyzer
Detector	QP: BW 120kHz	PK: RBW:1MHz/VBW: 1MHz	RBW:1MHz/VBW: 1MHz
IF Bandwidth		AV: RBW:1MHz/VBW:10Hz	

Test data : APPENDIX 3
Test result : Pass

*The noise from the EUT was not seen in the above 18GHz. The measurement was made in the residual noise levels.

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SECTION 7: 26dB Emission Bandwidth, Section 15.407(a)(1)(2)(3)

Test Procedure

The 26dB Emission Bandwidth was measured with a spectrum analyzer connected to the antenna port.

Test data	: APPENDIX 3
Test result	: Pass

SECTION 8: Peak Transmit Power, Section 15.407(a)(1)(2)(3)

Test Procedure

The Peak Transmit Power was measured with a spectrum analyzer connected to the antenna port.
The test was made with the spectrum analyzer that has a function of channel-power measurement.
We followed the method 1 specified in DA-02-2138A1.

Test data	: APPENDIX 3
Test result	: Pass

SECTION 9: Peak Power Spectral Density, Section 15.407 (a)(1)(2)(3)

Test Procedure

The Peak Power Spectral Density was measured with a spectrum analyzer connected to the antenna port.
We followed the method 2 specified in DA-02-2138A1.

Test data	:	APPENDIX 3
Test result	:	Pass

SECTION 10: Peak Excursion Ratio, Section 15.407 (a)(6)

Test Procedure

The Peak Excursion Ratio was measured with a spectrum analyzer connected to the antenna port.
The second Sweep was measured based on Method 1 specified in DA-02-2138A1.

Test data	:	APPENDIX 3
Test result	:	Pass

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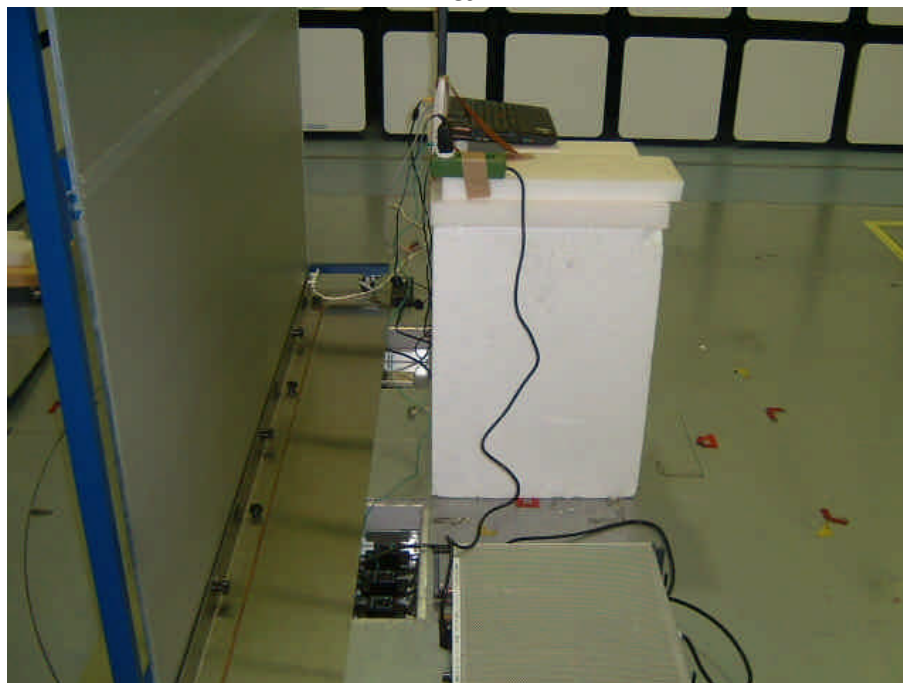
APPENDIX 1: Photographs of test setup

Conducted Emission

Front



Rear



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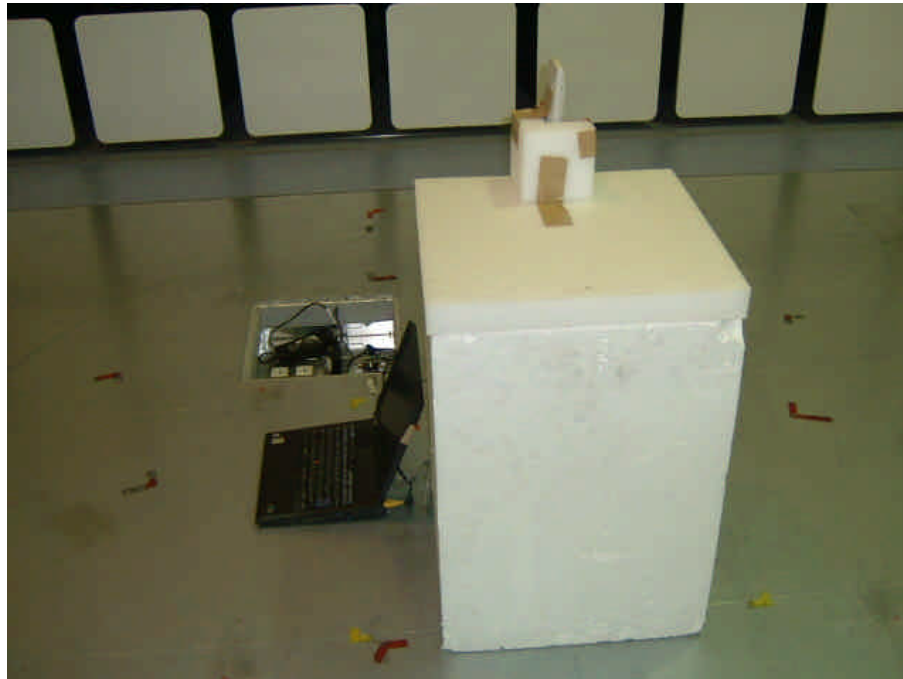
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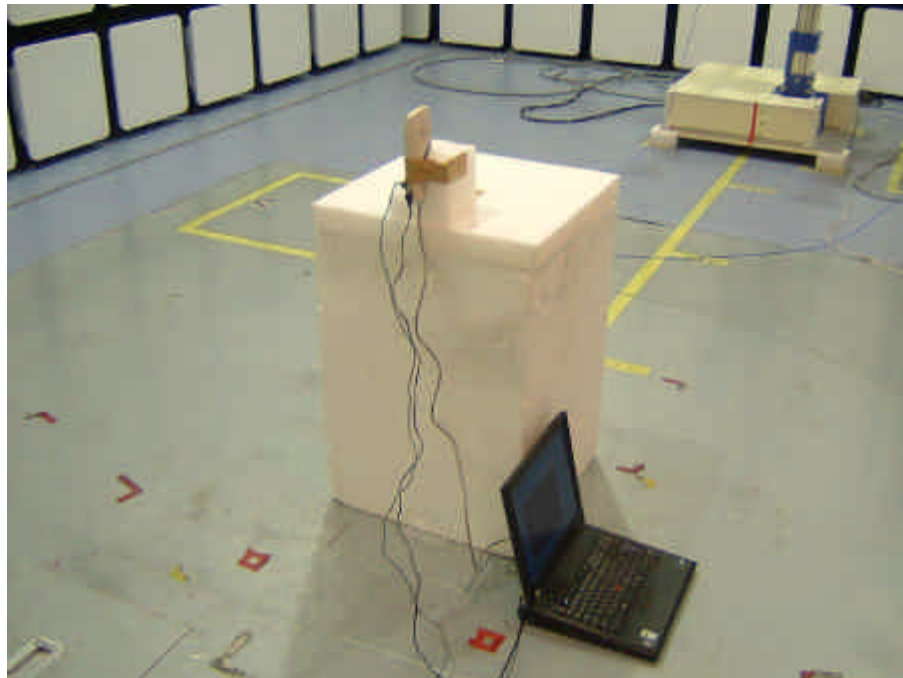
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Spurious Emission (Radiated)

Front



Rear



Worst Case Position (Y-axis:Horizontal / Y-axis:Vertical)

X-axis



Y-axis



Z-axis



APPENDIX 2:Test instruments

EMI test equipment (Conducted Emission)

Control No.	Instrument	Manufacturer	Model No	Calibration Date * Interval(month)
MAEC-02	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	2004/04/12 * 12
MRENT-09	Spectrum Analyzer	Advantest	R3273	2004/02/18 * 12
MTR-02	Test Receiver	Rohde & Schwarz	ESCS30	2004/02/03 * 12
MCC-13	Coaxial Cable	Fujikura/Agilent	-	2004/02/24 * 12
MLS-06	LISN(AMN) : EUT	Schwarzbeck	NSLK8127	2004/02/17 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	2004/02/17 * 12
MTA-05	Termination	MCL	NTRM-50	2004/02/16 * 12

EMI test equipment (Spurious Emission and Band Edge Compliance(Radiated))

Control No.	Instrument	Manufacturer	Model No	Calibration Date * Interval(month)
MAEC-02	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	2004/04/12 * 12
MRENT-09	Spectrum Analyzer	Advantest	R3273	2004/02/18 * 12
MCC-04	Microwave Cable	Storm	421-011	2004/01/06 * 12
MCC-24	Microwave Cable	Storm	-	2004/05/01 * 12
MPA-01	Pre Amplifier	Agilent	8449B	2004/02/06 * 12
MPA-03	Microwave System Power Amplifier	Agilent	83050A	2004/06/12 * 12
MBF-03	SHF Bandpass Filter	M-City	13GHz BPF	2004/05/21 * 12
MHA-02	Horn Antenna	EMCO	3160-09	2004/01/10 * 12
MHA-04	Horn Antenna	EMCO	3160-10	2004/01/10 * 12
MHA-06	Horn Antenna	Schwarzbeck	BBHA9120D	2004/01/10 * 12
MSA-03	Spectrum Analyzer	Agilent	E4448A	2004/06/12 * 12
MTR-02	Test Receiver	Rohde & Schwarz	ESI40	2003/11/12 * 12
MCC-12	Coaxial Cable	Suhner/storm/Agilent/TSJ	-	2003/12/19 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	2003/10/15 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	2003/10/15 * 12
MPA-02	Pre Amplifier	Agilent	8447D	2004/05/25 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	2003/12/16 * 12
MHF-02	High Pass Filter	Tokimec	TF323DCA	2003/09/19 * 12
MCC-11	Microwave coaxial cable	Suhner	SUCOFLEX 104	2004/03/26 * 12

EMI test equipment (Other)

Control No.	Instrument	Manufacturer	Model No	Calibration Date * Interval(month)
MSA-03	Spectrum Analyzer	Agilent	E4448A	2004/06/12 * 12
MCC-21	Microwave Cable	Storm	-	2004/05/01 * 12
MAT-20	Attenuator	HIROSE ELECTRIC CO.,LTD.	AT-110	2004/01/28 * 12

All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

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APPENDIX 3: Data of EMI test

Conducted Emission

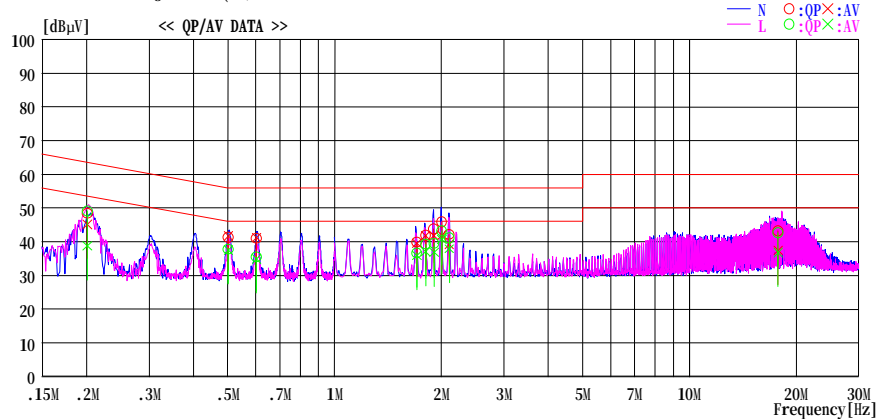
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/13 13:42:20

Applicant : CONTEC Co., LTD.
Kind of EUT : Wireless LAN Access Point
Model No. : EX-DS540-APDL
Serial No. : 3IRBG10000057
Report No. : 24GE0302-HO
Power : DC3.3V AC Adapter AC120V / 60Hz
Temp°C/Humi% : 28 deg.C / 60 %
Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11a/5745MHz/54Mbps(short)/FRAME PN9 with earth cable

LIMIT : FCC15C §15.207 (QP)
FCC15C §15.207 (AV)



Frequency [MHz]	Reading Level		Corr. Factor	Results		Limit		Margin		Phase
	QP [dBμV]	AV [dBμV]		QP [dBμV]	AV [dBμV]	QP [dBμV]	AV [dBμV]	QP [dBμV]	AV [dBμV]	
0.20100	48.3	45.0	0.1	48.4	45.1	63.6	53.6	15.2	8.5	N
0.20100	49.0	38.7	0.1	49.1	38.8	63.6	53.6	14.5	14.8	L
0.50130	41.1	41.5	0.2	41.3	41.7	56.0	46.0	14.7	4.3	N
0.50130	37.6	37.3	0.2	37.8	37.5	56.0	46.0	18.2	8.5	L
0.60231	40.8	41.1	0.2	41.0	41.3	56.0	46.0	15.0	4.7	N
0.60231	35.3	34.7	0.2	35.5	34.9	56.0	46.0	20.5	11.1	L
1.70600	39.5	39.3	0.3	39.8	39.6	56.0	46.0	16.2	6.4	N
1.70600	36.4	35.6	0.3	36.7	35.9	56.0	46.0	19.3	10.1	L
1.80650	41.6	41.5	0.3	41.9	41.8	56.0	46.0	14.1	4.2	N
1.80650	39.0	36.8	0.3	39.3	37.1	56.0	46.0	16.7	8.9	L
1.90235	43.5	41.5	0.3	43.8	41.8	56.0	46.0	12.2	4.2	N
1.90880	39.2	36.6	0.3	39.5	36.9	56.0	46.0	16.5	9.1	L
2.00407	45.6	41.6	0.3	45.9	41.9	56.0	46.0	10.1	4.1	N
2.00470	42.9	40.4	0.3	43.2	40.7	56.0	46.0	12.8	5.3	L
2.10271	41.8	39.0	0.3	42.1	39.3	56.0	46.0	13.9	6.7	N
2.10625	40.8	37.6	0.3	41.1	37.9	56.0	46.0	14.9	8.1	L
17.76120	41.6	35.8	1.6	43.2	37.4	60.0	50.0	16.8	12.6	N
17.76120	41.0	35.2	1.6	42.6	36.8	60.0	50.0	17.4	13.2	L

CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/13 13:26:07

Applicant : CONTEC Co., LTD.
Kind of EUT : Wireless LAN Access Point
Model No. : FX-DS540-APDL
Serial No. : 3IRBG10000057

Report No. : 24GE0302-HO
Power : DC3.3V AC Adapter AC120V / 60Hz
Temp°C/Humi% : 28 deg.C / 60 %
Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11a/5180MHz/54Mbps(short)/FRAME PN9 with earth cable

LIMIT : FCC15C §15.207 (QP)
FCC15C §15.207 (AV)

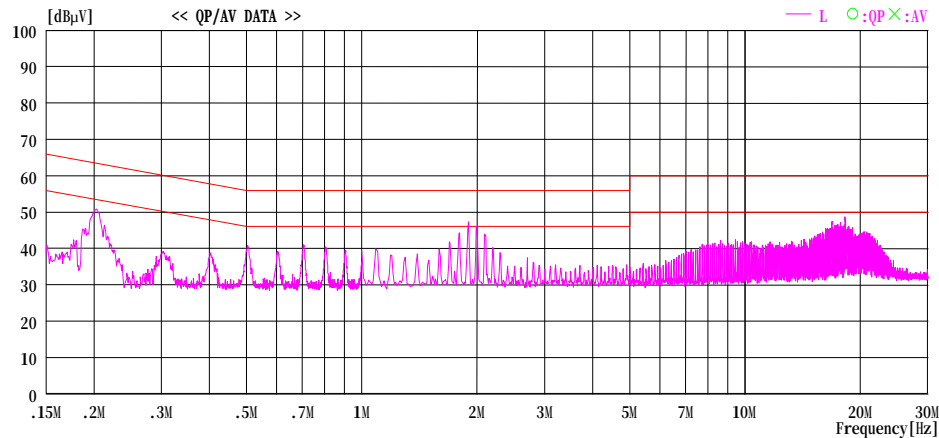
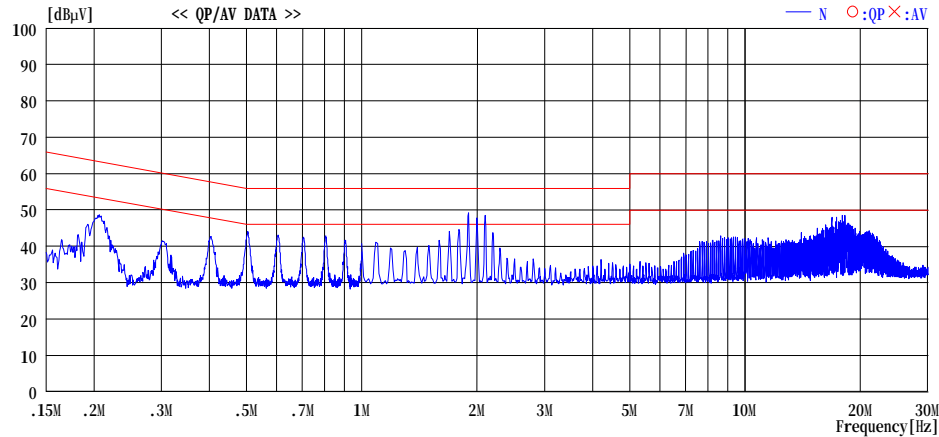


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/13 13:33:08

Applicant : CONTEC Co., LTD.
Kind of EUT : Wireless LAN Access Point
Model No. : FX-DS540-APDL
Serial No. : 31RBG10000057
Report No. : 24GE0302-HO
Power : DC3.3V AC Adapter AC120V / 60Hz
Temp°C/Humi% : 28 deg.C / 60 %
Operator : Hiroka Uneyama

Mode / Remarks : Transmitting 11a/5260MHz/54Mbps(short)/FRAME PN9 with earth cable

LIMIT : FCC15C §15.207 (QP)
FCC15C §15.207 (AV)

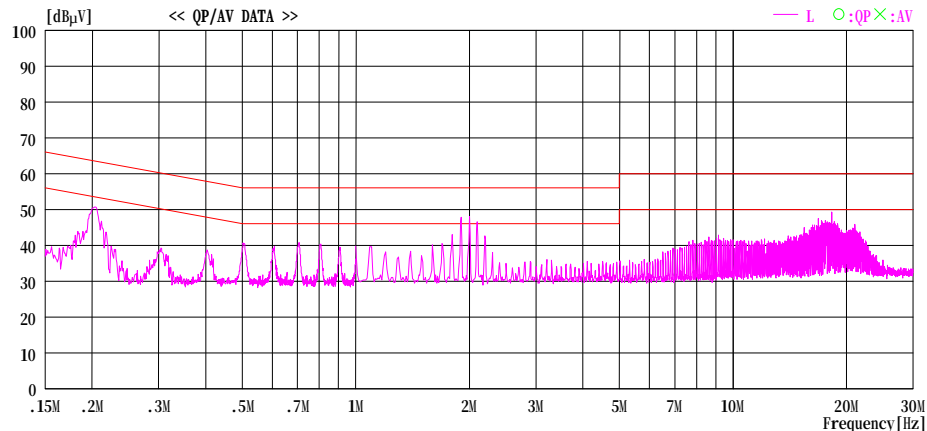
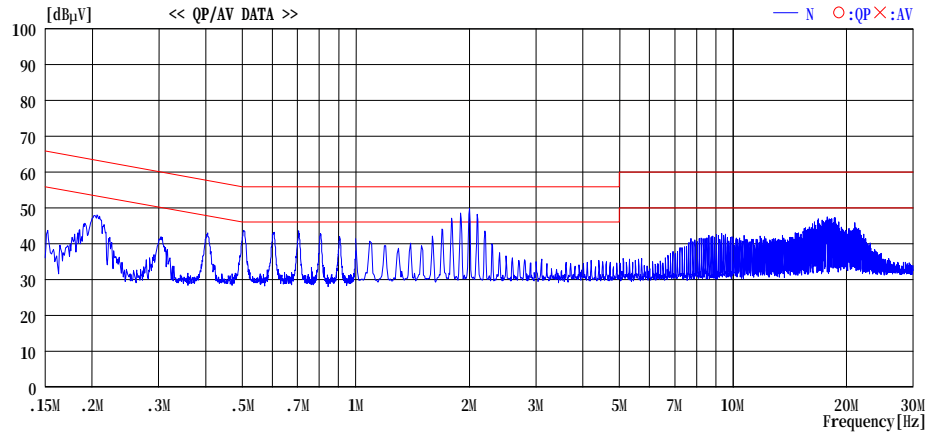


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/13 13:36:43

Applicant : CONTEC Co., LTD.
Kind of EUT : Wireless LAN Access Point
Model No. : FX-DS540-APDL
Serial No. : 31RBG10000057

Report No. : 24GE0302-HO
Power : DC3.3V AC Adapter AC120V / 60Hz
Temp°C/Humi% : 28 deg.C / 60 %
Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11a/5320MHz/54Mbps(short)/FRAME PN9 with earth cable

LIMIT : FCC15C §15.207 (QP)
FCC15C §15.207 (AV)

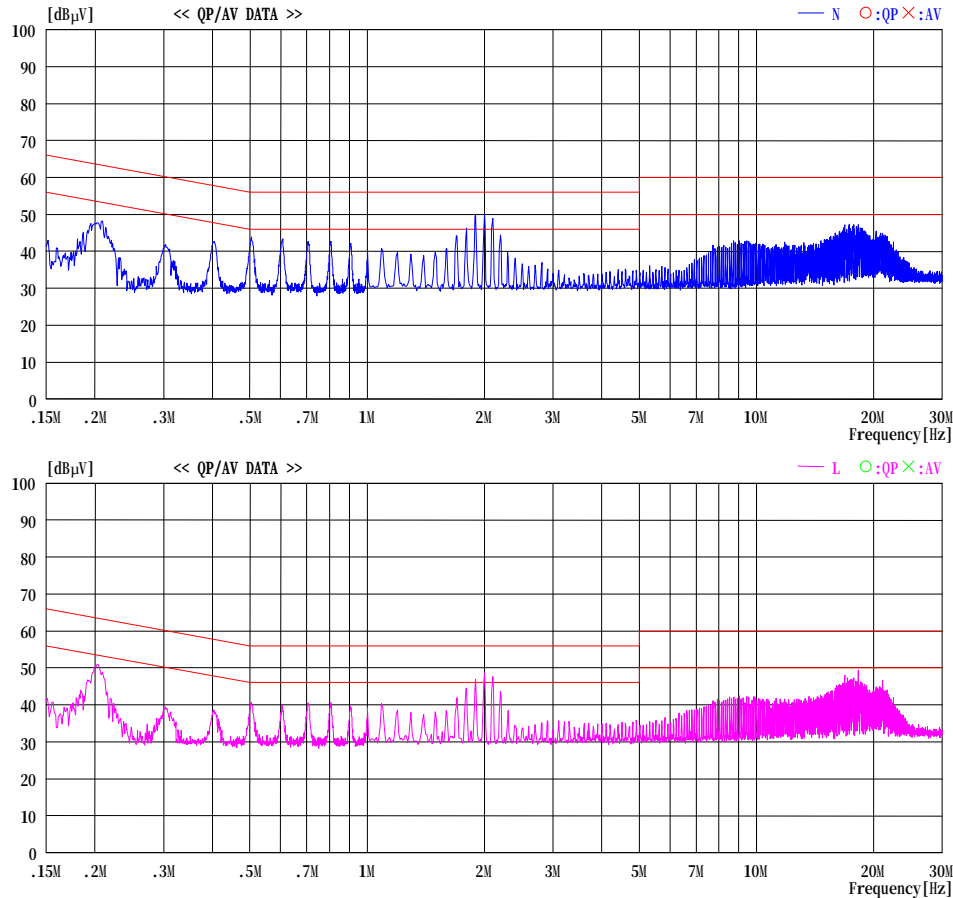


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/13 13:48:11

Applicant : CONTEC Co., LTD.
Kind of EUT : Wireless LAN Access Point
Model No. : FX-DS540-APDL
Serial No. : 3IRBG10000057

Report No. : 24GE0302-HO
Power : DC3.3V AC Adapter AC120V / 60Hz
Temp°C/Humi% : 28 deg.C / 60 %
Operator : Hiroka Uneyama

Mode / Remarks : Transmitting 11a/5765MHz/54Mbps(short)/FRAME PN9 with earth cable

LIMIT : FCC15C §15.207 (QP)
FCC15C §15.207 (AV)

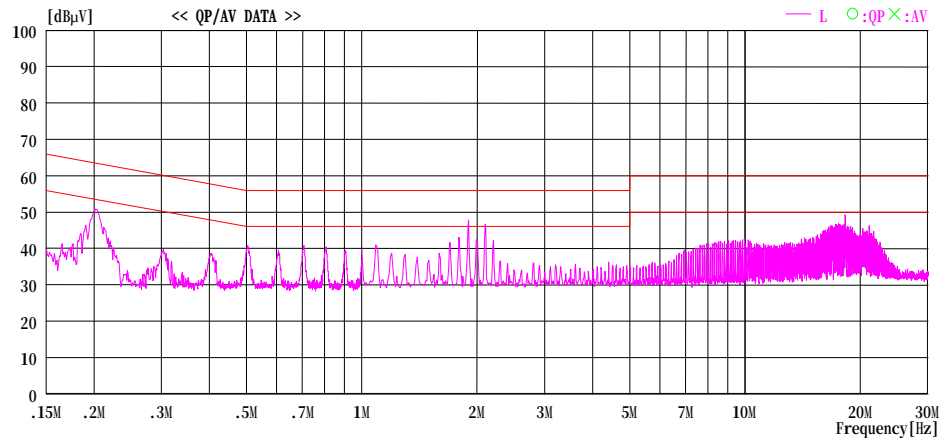
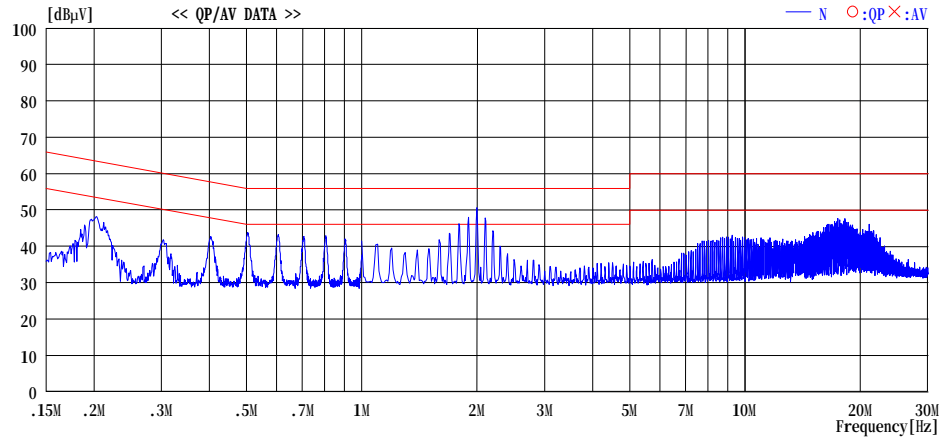


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/13 13:52:22

Applicant : CONTEC Co., LTD.
Kind of EUT : Wireless LAN Access Point
Model No. : FX-DS540-APDL
Serial No. : 31RBG10000057

Report No. : 24GE0302-HO
Power : DC3.3V AC Adapter AC120V / 60Hz
Temp°C/Humi% : 28 deg.C / 60 %
Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11a/5805MHz/54Mbps(short)/FRAME PN9 with earth cable

LIMIT : FCC15C § 15.207 (QP)
FCC15C § 15.207 (AV)

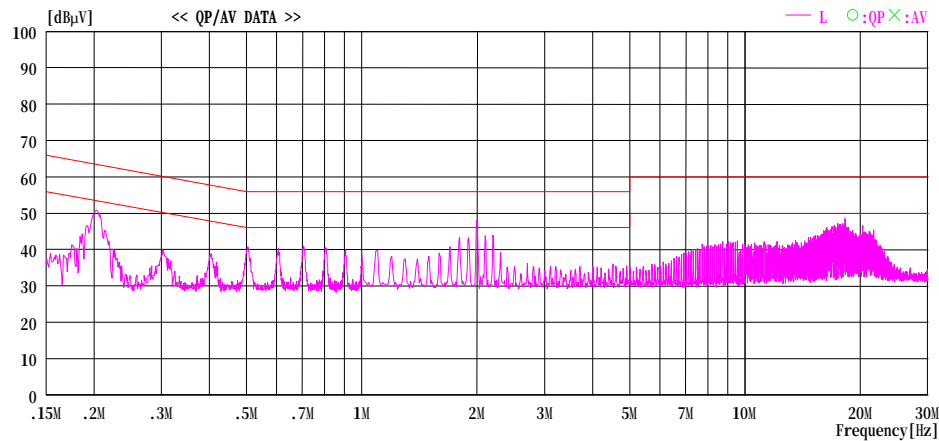
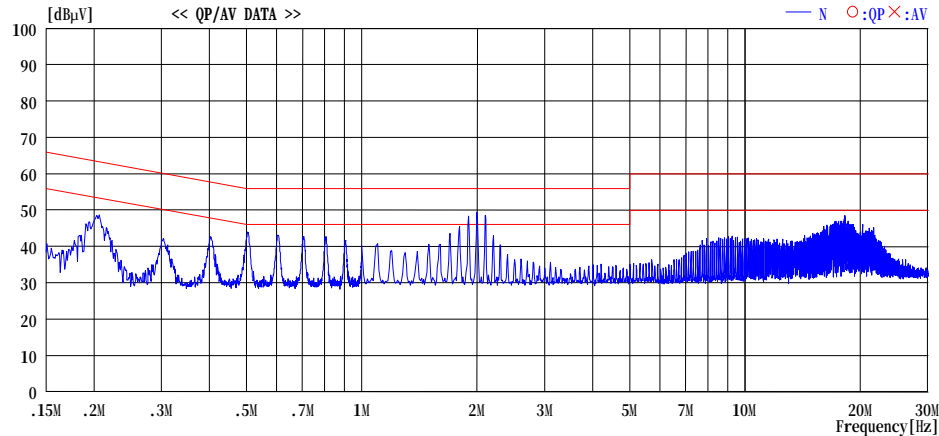


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/13 14:27:10

Applicant : CONTEC Co., LTD.
Kind of EUT : Wireless LAN Access Point
Model No. : FX-DS540-APDL
Serial No. : 31RBG10000057

Report No. : 24GE0302-HO
Power : DC3.3V AC Adapter AC120V / 60Hz
Temp°C/Humi% : 28 deg.C / 60 %
Operator : Hiroka Umeyama

Mode / Remarks : Standby with earth cable

LIMIT : FCC15C §15.207 (QP)
FCC15C §15.207 (AV)

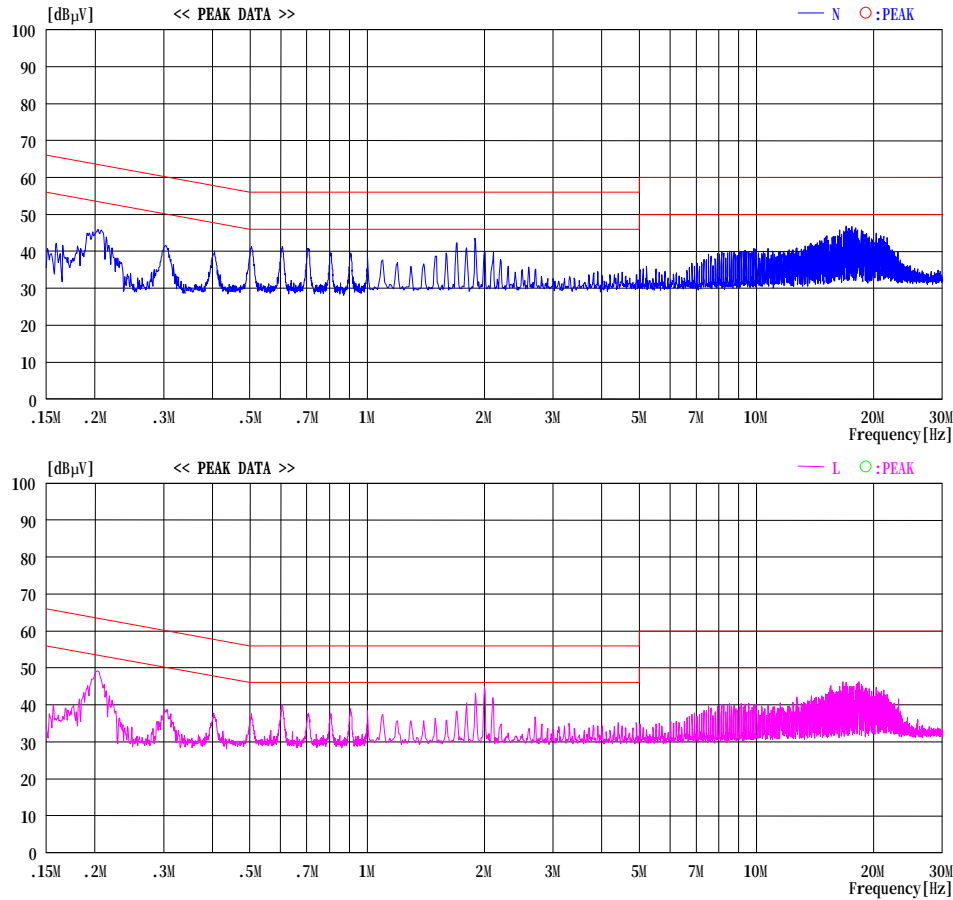


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

26dB Emission Bandwidth

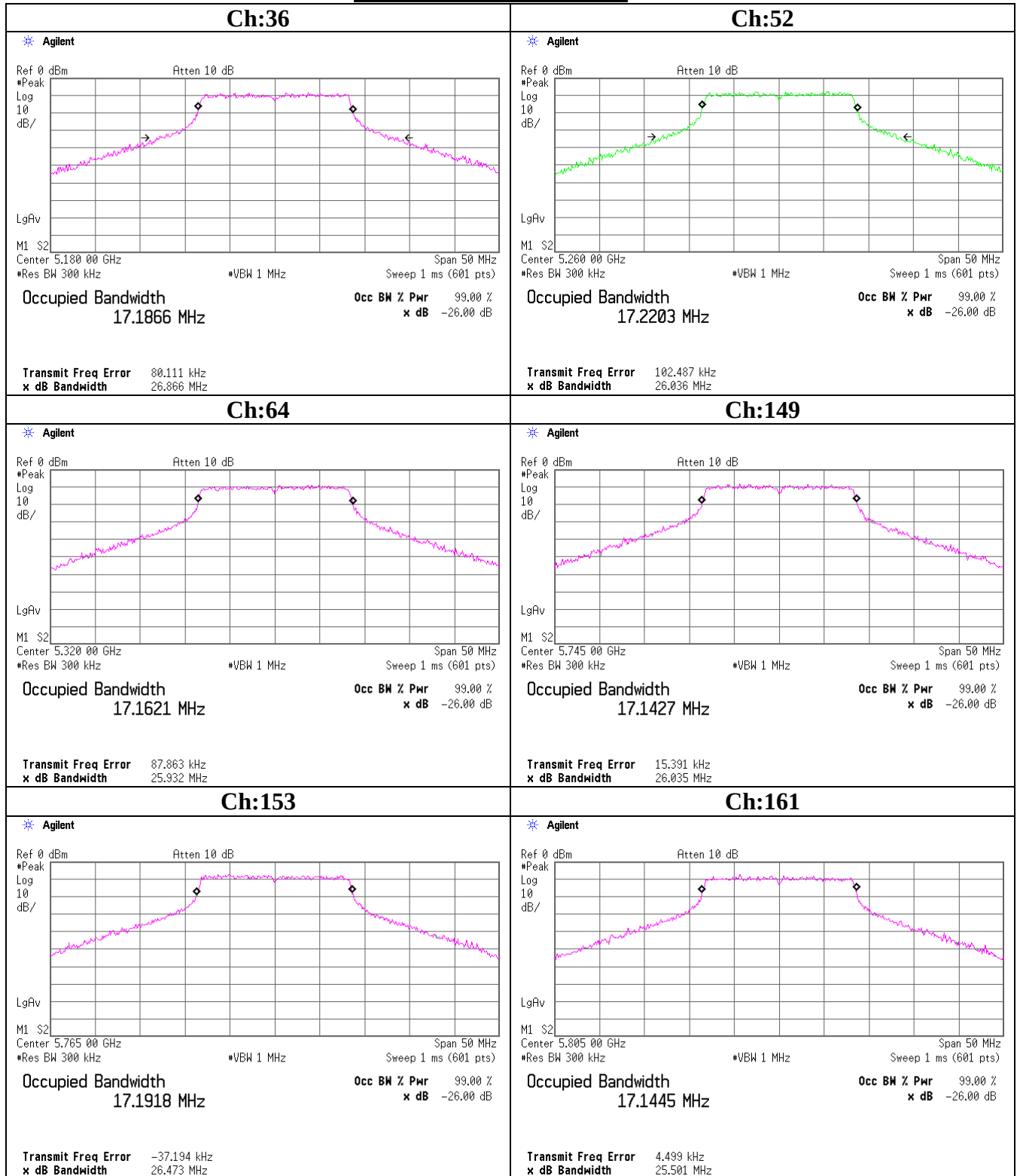
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

Company : CONTEC CO.,LTD.
Equipment : Wireless LAN Access Point
Model : FX-DS540-APDL
Sample No. : 3IRBG10000057
Power : DC3.3V
Mode : Tx IEEE 802.11a 54Mbps

REPORT NO : 24GE0302-HO
REGULATION : FCC 15.407(a)(1)(2)(3)
TEST DISTANCE : -
DATE : 07/07/2004
TEMPERATURE : 25deg.C
HUMIDITY : 57%
ENGINEER : Mitsuru Fujimura

Ch	Freq. [MHz]	26dB Bandwidth [MHz]	Limit [MHz]
36	5180.0	26.866	-
52	5260.0	26.036	-
64	5320.0	25.932	-
149	5745.0	26.035	-
153	5765.0	26.473	-
161	5805.0	25.501	-

26dB Emission Bandwidth



Peak Transmit Power

UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

Company	: CONTEC CO.,LTD.	REPORT NO	: 24GE0302-HO
Equipment	: Wireless LAN Access Point	REGULATION	: FCC 15.407(a)(1)(2)(3)
Model	: FX-DS540-APDL	TEST DISTANCE	: -
Sample No.	: 3IRBG10000057	DATE	: 07/08/2004
Power	: DC3.3V	TEMPERATURE	: 25deg.C
Mode	: Tx IEEE 802.11a 54Mbps	HUMIDITY	: 60%
	: Continuous Transmitting	ENGINEER	: Hiroka Umeyama

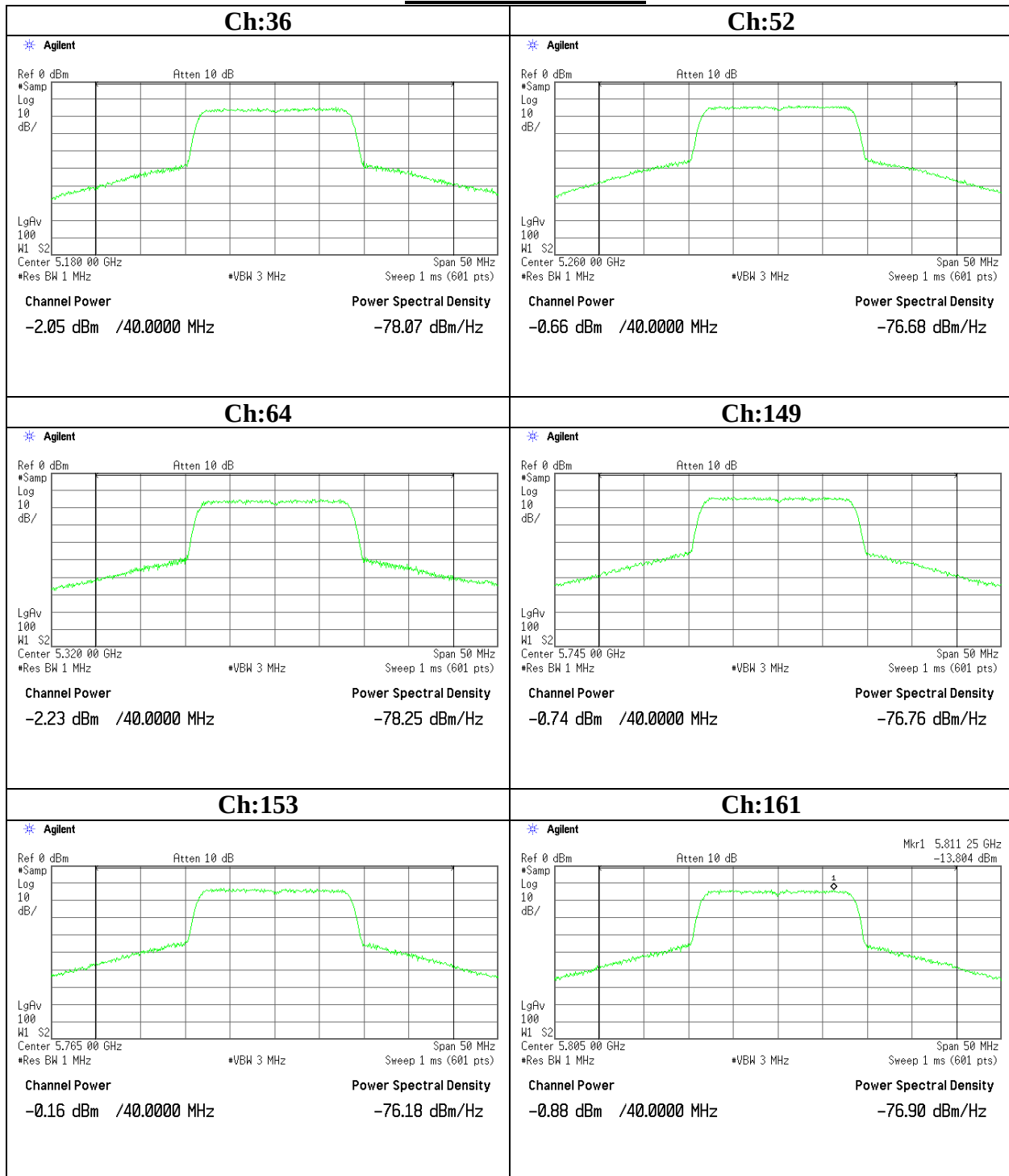
Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
36	5180.0	-2.05	2.9	10.0	10.88	17.0	6.1
52	5260.0	-0.66	2.9	10.0	12.24	17.0	4.8
64	5320.0	-2.23	2.9	10.0	10.67	24.0	13.3
149	5745.0	-0.74	3.0	10.0	12.26	30.0	17.7
153	5765.0	-0.16	3.0	10.0	12.84	30.0	17.2
161	5805.0	-0.88	3.0	10.0	12.12	30.0	17.9

Sample Calculation:

Result = Reading + Cable Loss + Attenuator

* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

Peak Transmit Power



Radiated Spurious Emission (below 1GHz)

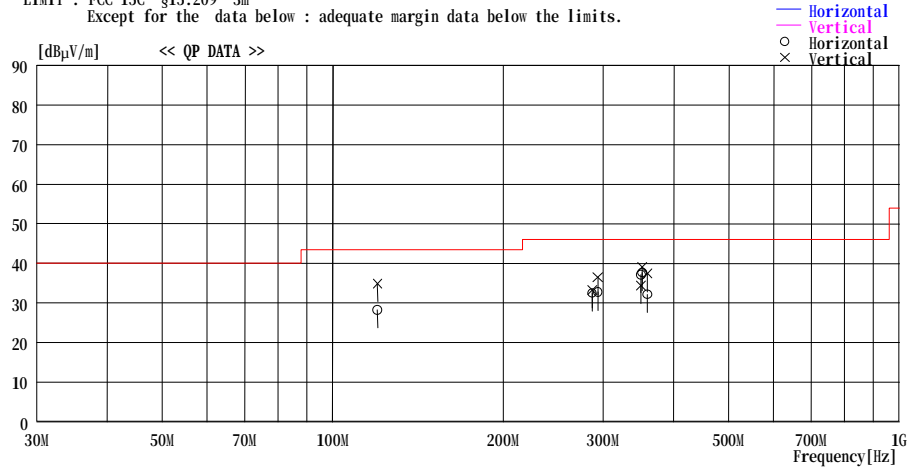
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber

Applicant : CONTEC Co.,LTD. Report No. : 24GE0302-HO
Kind of EUT : Wireless LAN Access Point Power : DC 3.3V / AC Adapter AC120V/60Hz
Model No. : FX-DS540-APDL Temp°C/Humi% : 26deg.C / 60%
Sample No. : 31RBG10000057 Operator : Makoto Kosaka

Mode / Remarks : Transmitting 11a/5180MHz/54Mbps PN9/EUT position Y-axis

LIMIT : FCC 15C §15.209 3m
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dBμV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	119.998	30.6	13.0	7.4	22.8	28.2	43.5	15.3	100	0
2	287.054	27.6	19.5	8.3	22.9	32.5	46.0	13.5	100	197
3	293.701	27.3	19.9	8.3	22.8	32.7	46.0	13.3	100	191
4	350.000	35.1	16.2	8.5	22.7	37.1	46.0	8.9	100	37
5	352.002	35.7	16.2	8.5	22.7	37.7	46.0	8.3	100	102
6	359.671	29.7	16.6	8.6	22.7	32.2	46.0	13.8	100	93
----- Vertical -----										
7	119.998	37.3	13.0	7.4	22.8	34.9	43.5	8.6	100	171
8	287.054	28.4	19.5	8.3	22.9	33.3	46.0	12.7	100	146
9	293.701	31.1	19.9	8.3	22.8	36.5	46.0	9.5	100	153
10	350.000	32.4	16.2	8.5	22.7	34.4	46.0	11.6	100	75
11	352.002	37.1	16.2	8.5	22.7	39.1	46.0	6.9	168	139
12	359.671	34.9	16.6	8.6	22.7	37.4	46.0	8.6	167	134

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP.GAIN Page:

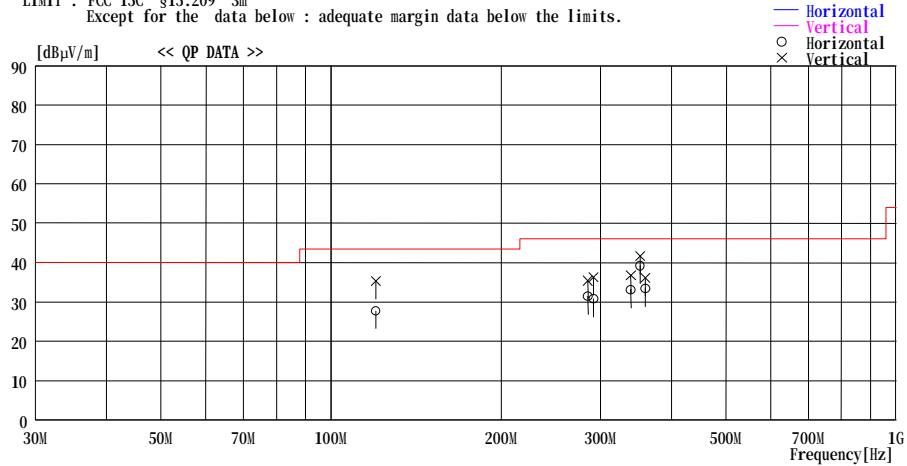
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber

Applicant : CONTEC Co.,LTD. Report No. : 24GE0302-HO
Kind of EUT : Wireless LAN Access Point Power : DC 3.3V / AC Adapter AC120V/60Hz
Model No. : FX-DS540-APDL Temp°C/Humi% : 26deg.C / 60%
Sample No. : 31RBG10000057 Operator : Makoto Kosaka

Mode / Remarks : Transmitting 11a/5260MHz/54Mbps PN9/EUT position Y-axis

LIMIT : FCC 15C §15.209 3m
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dBμV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	119.997	30.1	13.0	7.4	22.8	27.7	43.5	15.8	100	0
2	284.880	26.6	19.4	8.3	22.9	31.4	46.0	14.6	100	52
3	291.286	25.5	19.8	8.3	22.8	30.8	46.0	15.2	100	0
4	339.201	31.7	15.7	8.5	22.8	33.1	46.0	12.9	100	103
5	352.002	37.2	16.2	8.5	22.7	39.2	46.0	6.8	100	91
6	359.677	30.9	16.6	8.6	22.7	33.4	46.0	12.6	100	99
----- Vertical -----										
7	119.997	37.7	13.0	7.4	22.8	35.3	43.5	8.2	100	171
8	284.880	30.6	19.4	8.3	22.9	35.4	46.0	10.6	100	253
9	291.286	31.0	19.8	8.3	22.8	36.3	46.0	9.7	100	266
10	339.201	35.4	15.7	8.5	22.8	36.8	46.0	9.2	139	171
11	352.002	39.6	16.2	8.5	22.7	41.6	46.0	4.4	158	141
12	359.677	33.6	16.6	8.6	22.7	36.1	46.0	9.9	133	145

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP.GAIN Page:

DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber

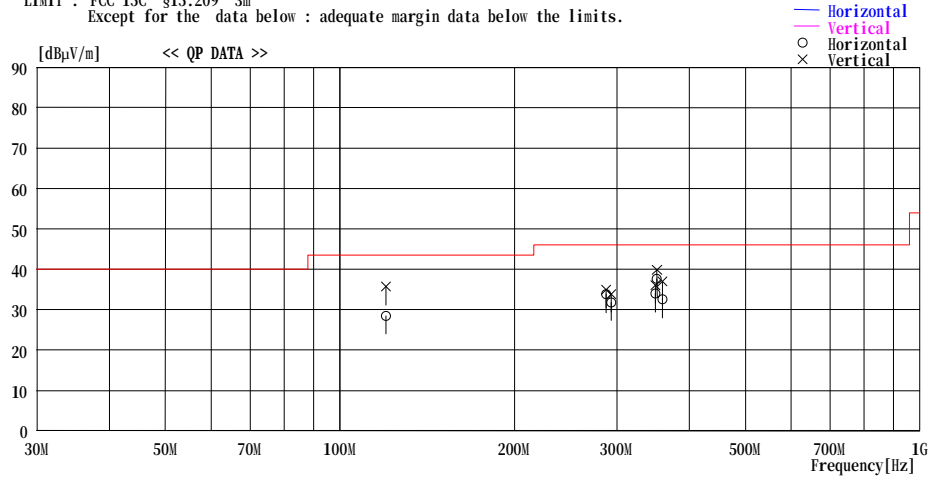
Applicant : CONTEC Co.,LTD.
Kind of EUT : Wireless LAN Access Point
Model No. : FX-DS540-APDL
Sample No. : 31RBG10000057

Report No. : 24GE0302-HO
Power : DC 3.3V / AC Adapter AC120V/60Hz
Temp°C/Humi% : 26deg.C / 60%
Operator : Makoto Kosaka

Mode / Remarks : Transmitting 11a/5320MHz/54Mbps PN9/EUT position Y-axis

LIMIT : FCC 15C §15.209 3m

Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dBμV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	119.998	30.9	13.0	7.4	22.8	28.5	43.5	15.0	100	145
2	287.711	19.6	19.6	8.3	22.8	33.8	46.0	12.2	100	0
3	293.701	26.4	19.9	8.3	22.8	31.8	46.0	14.2	100	188
4	349.747	32.1	16.1	8.5	22.7	34.0	46.0	12.0	100	49
5	352.002	35.6	16.2	8.5	22.7	37.6	46.0	8.4	100	93
6	359.673	30.0	16.6	8.6	22.7	32.5	46.0	13.5	100	112
----- Vertical -----										
7	119.998	38.1	13.0	7.4	22.8	35.7	43.5	7.8	100	176
8	287.711	29.9	19.6	8.3	22.8	35.0	46.0	11.0	100	151
9	293.701	28.5	19.9	8.3	22.8	33.9	46.0	12.1	100	307
10	349.747	34.2	16.1	8.5	22.7	36.1	46.0	9.9	121	260
11	352.002	37.9	16.2	8.5	22.7	39.9	46.0	6.1	145	157
12	359.673	34.5	16.6	8.6	22.7	37.0	46.0	9.0	156	246

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP.GAIN Page:

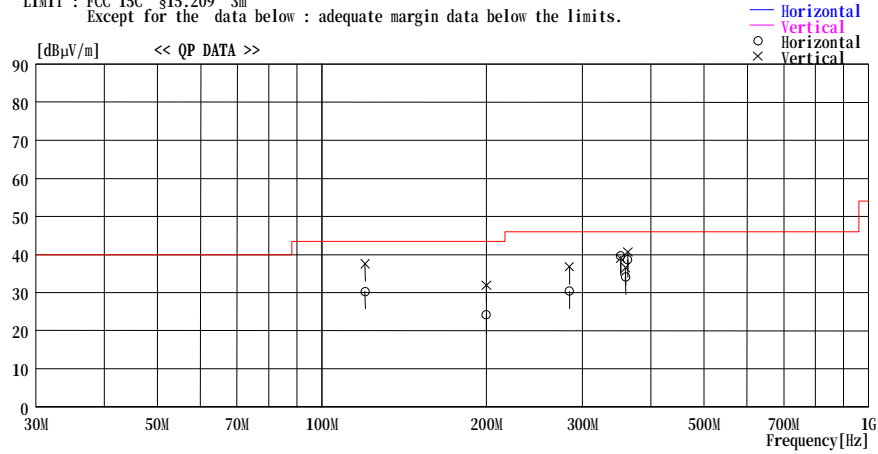
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/23 11:26:18

Applicant : CONTEC CO., LTD.
Kind of EUT : Wireless LAN Access Point
Model No. : FX-DS540-APDL
Sample No. : 3IRBG10000057
Report No. : 24GE0302-HO
Power : DC 3.3V / AC Adapter AC120V/60Hz
Temp°C/Humi% : 25deg.C / 56%
Operator : Hiroka Uneyama

Mode / Remarks : Transmitting 11a/5745MHz/54Mbps PN9/EUT position Y-axis

LIMIT : FCC 15C §15.209 3m
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dB μ V]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μ V/m]	LIMIT [dB μ V/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	119.909	32.7	13.0	7.4	22.8	30.3	43.5	13.2	200	295
2	200.000	22.5	16.8	7.8	23.0	24.1	43.5	19.4	270	350
3	283.740	25.6	19.4	8.3	22.9	30.4	46.0	15.6	325	270
4	352.000	37.6	16.2	8.5	22.7	39.6	46.0	6.4	150	140
5	359.670	31.6	16.6	8.6	22.7	34.1	46.0	11.9	100	190
6	362.990	36.1	16.7	8.6	22.8	38.6	46.0	7.4	100	165
----- Vertical -----										
7	120.000	40.0	13.0	7.4	22.8	37.6	43.5	5.9	100	171
8	200.000	30.4	16.8	7.8	23.0	32.0	43.5	11.5	100	25
9	283.740	32.0	19.4	8.3	22.9	36.8	46.0	9.2	100	60
10	352.000	37.0	16.2	8.5	22.7	39.0	46.0	7.0	150	55
11	359.670	34.1	16.6	8.6	22.7	36.6	46.0	9.4	140	200
12	362.990	38.2	16.7	8.6	22.8	40.7	46.0	5.3	115	200

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP.GAIN Page:

DATA OF RADIATED EMISSION TEST

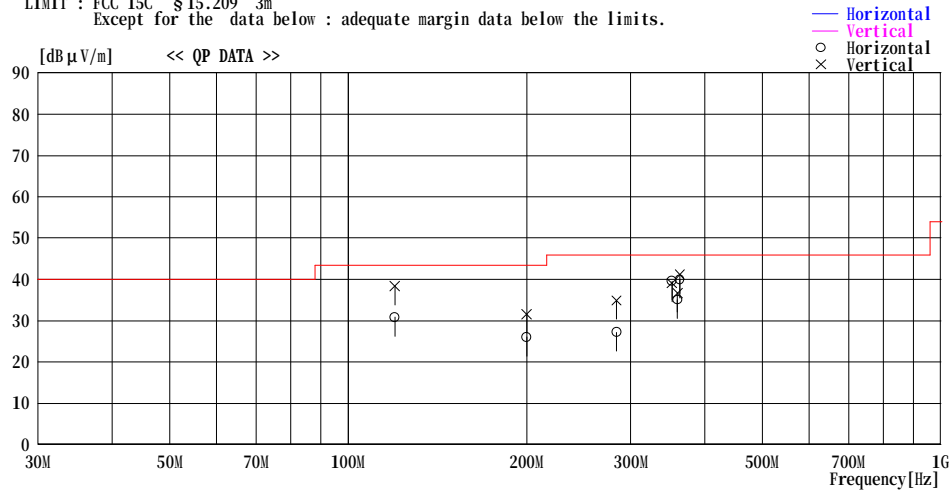
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/23 11:26:18

Applicant : CONTEC CO., LTD.
Kind of EUT : Wireless LAN Access Point
Model No. : FX-DS540-APDL
Sample No. : 31RBG10000057
Report No. : 24GE0302-HO
Power : DC 3.3V / AC Adapter AC120V/60Hz
Temp°C/Humi% : 25deg.C / 56%
Operator : Hiroka Uneyama

Mode / Remarks : Transmitting 11a/5765MHz/54Mbps PN9/EUT position Y-axis

LIMIT : FCC 15C §15.209 3m

Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dB μ V]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μ V/m]	LIMIT [dB μ V/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	119.909	33.2	13.0	7.4	22.8	30.8	43.5	12.7	270	302
2	200.000	24.4	16.8	7.8	23.0	26.0	43.5	17.5	270	319
3	283.740	22.4	19.4	8.3	22.9	27.2	46.0	18.8	270	232
4	352.000	37.6	16.2	8.5	22.7	39.6	46.0	6.4	150	140
5	359.670	32.6	16.6	8.6	22.7	35.1	46.0	10.9	100	190
6	362.990	37.5	16.7	8.6	22.8	40.0	46.0	6.0	100	165
----- Vertical -----										
7	119.909	40.8	13.0	7.4	22.8	38.4	43.5	5.1	100	170
8	200.000	30.0	16.8	7.8	23.0	31.6	43.5	11.9	100	230
9	283.740	30.1	19.4	8.3	22.9	34.9	46.0	11.1	100	0
10	352.000	37.1	16.2	8.5	22.7	39.1	46.0	6.9	150	55
11	359.670	34.2	16.6	8.6	22.7	36.7	46.0	9.3	140	200
12	362.990	38.7	16.7	8.6	22.8	41.2	46.0	4.8	115	200

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP.GAIN Page:

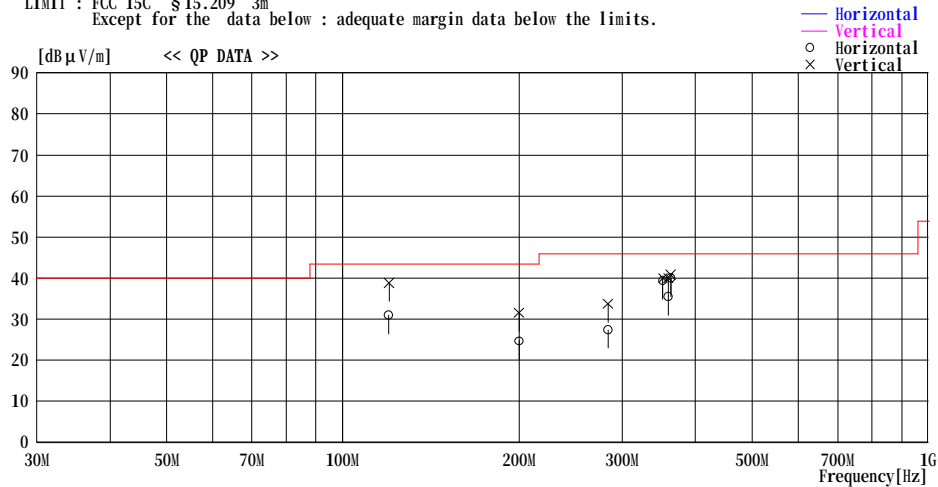
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/23 11:26:18

Applicant : CONTEC CO., LTD. Report No. : 24GE0302-H0
Kind of EUT : Wireless LAN Access Point Power : DC 3.3V / AC Adapter AC120V/60Hz
Model No. : FX-DS540-APDL Temp°C/Humi% : 25deg.C / 56%
Sample No. : 31RBG10000057 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11a/5805MHz/54Mbps PN9/EUT position Y-axis

LIMIT : FCC 15C §15.209 3m
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dB μV]	ANT FACTOR [dB/m]	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
				[dB]	[dB]	[dB μV/m]	[dB μV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	119.909	33.4	13.0	7.4	22.8	31.0	43.5	12.5	300	300
2	200.000	23.0	16.8	7.8	23.0	24.6	43.5	18.9	200	125
3	283.740	22.6	19.4	8.3	22.9	27.4	46.0	18.6	270	232
4	352.000	37.4	16.2	8.5	22.7	39.4	46.0	6.6	150	140
5	359.670	32.9	16.6	8.6	22.7	35.4	46.0	10.6	100	190
6	362.990	37.4	16.7	8.6	22.8	39.9	46.0	6.1	100	165
----- Vertical -----										
7	120.000	41.2	13.0	7.4	22.8	38.8	43.5	4.7	100	171
8	200.000	30.0	16.8	7.8	23.0	31.6	43.5	11.9	100	230
9	283.740	29.0	19.4	8.3	22.9	33.8	46.0	12.2	100	0
10	352.000	38.0	16.2	8.5	22.7	40.0	46.0	6.0	150	55
11	359.670	37.5	16.6	8.6	22.7	40.0	46.0	6.0	140	200
12	362.990	38.4	16.7	8.6	22.8	40.9	46.0	5.1	115	200

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP.GAIN Page: 33

Radiated Spurious Emission (above 1GHz:Inside of the restricted band)

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY : CONTEC CO., LTD.
EQUIPMENT : Wireless LAN Access Point
MODEL : FX-DS540-APDL
SAMPLE NO. : 3IRBG10000057
POWER : DC3.3V(AC120V/60Hz)
MODE : Transmitting (11a / 54Mbps / CH36:5180MHz)
POSITION : MAX
REGULATION : Fcc Part15 Subpart E 15.407
TEST DISTANCE : 3m / 1m / 0.5m
DATE : 07/13/2004 and 07/14/2004
TEMPERATURE : 26°C and 28°C
HUMIDITY : 60% and 48%
ENGINEER : Hiroka Umeyama

PK DETECT

No.	Freq. [MHz]	Reading		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result		Limit PK [dBuV/m]	Margin	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	5375.6	48.5	48.6	36.2	35.7	9.9	0.0	58.9	59.0	74.0	15.1	15.0
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) -Dfac												
1	15540.0	43.4	44.6	42.8	35.9	17.7	0.8	59.3	60.5	74.0	14.7	13.5
2	20720.0	43.5	43.6	40.2	35.9	21.4	0.0	59.7	59.8	74.0	14.3	14.2

AV DETECT

No.	Freq. [MHz]	Reading		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result		Limit AV [dBuV/m]	Margin	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	5375.6	39.9	41.8	36.2	35.7	9.9	0.0	50.3	52.2	54.0	3.7	1.8
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	15540.0	31.5	32.4	42.8	35.9	17.7	0.8	47.4	48.3	54.0	6.6	5.7
2	20720.0	30.9	30.9	40.2	35.9	21.4	0.0	47.1	47.1	54.0	6.9	6.9

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.5 dB

* Except for the above table : All other spurious emissions were less than 20dB for the limit.

* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz

* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

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Radiated Spurious Emission (above 1GHz:Inside of the restricted band)

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY : CONTEC CO., LTD.
EQUIPMENT : Wireless LAN Access Point
MODEL : FX-DS540-APDL
SAMPLE NO. : 3IRBG10000057
POWER : DC3.3V(AC120V/60Hz)
MODE : Transmitting (11a / 54Mbps / CH52:5260MHz)
POSITION : MAX

REGULATION : Fcc Part15 Subpart E 15.407
TEST DISTANCE : 3m / 1m / 0.5m
DATE : 07/13/2004 and 07/14/2004
TEMPERATURE : 26°C and 28°C
HUMIDITY : 60% and 48%
ENGINEER : Hiroka Umeyama

PK DETECT

No.	Freq. [MHz]	Reading		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result		Limit PK [dBuV/m]	Margin	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	5376.0	47.0	48.2	36.2	35.7	9.9	0.0	57.4	58.6	74.0	16.6	15.4
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	15780.0	50.6	44.8	42.8	35.9	17.7	0.8	66.5	60.7	74.0	7.5	13.3
2	21040.0	44.6	44.5	40.3	35.8	21.7	0.0	61.3	61.2	74.0	12.7	12.8

AV DETECT

No.	Freq. [MHz]	Reading		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result		Limit AV [dBuV/m]	Margin	
		HOR [dBuV]	VER					HOR [dBuV/m]	VER		HOR [dB]	VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	5376.0	38.8	40.9	36.2	35.7	9.9	0.0	49.2	51.3	54.0	4.8	2.7
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	15780.0	37.1	32.5	42.8	35.9	17.7	0.8	53.0	48.4	54.0	1.0	5.6
2	21040.0	31.7	31.7	40.3	35.8	21.7	0.0	48.4	48.4	54.0	5.6	5.6

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) =

9.5 dB

* Except for the above table : All other spurious emissions were less than 20dB for the limit.

* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz

* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

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Radiated Spurious Emission (above 1GHz:Inside of the restricted band)

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY : CONTEC CO., LTD.
EQUIPMENT : Wireless LAN Access Point
MODEL : FX-DS540-APDL
SAMPLE NO. : 3IRBG10000057
POWER : DC3.3V(AC120V/60Hz)
MODE : Transmitting (11a / 54Mbps / CH64:5320MHz)
POSITION : MAX
REGULATION : Fcc Part15 Subpart E 15.407
TEST DISTANCE : 3m / 1m / 0.5m
DATE : 07/13/2004 and 07/14/2004
TEMPERATURE : 26°C and 28°C
HUMIDITY : 60% and 48%
ENGINEER : Hiroka Umeyama

PK DETECT

No.	Freq. [MHz]	Reading		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result		Limit PK [dBuV/m]	Margin	
		HOR [dBuV]	VER					HOR [dBuV/m]	VER		HOR [dB]	VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	2657.0	50.7	52.4	36.2	35.7	9.9	0.0	61.1	62.8	74.0	12.9	11.2
1	4986.6	44.8	46.7	31.4	36.3	6.8	0.0	46.7	48.6	74.0	27.3	25.4
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
2	10640.0	44.9	43.8	37.9	35.7	14.6	0.5	52.7	51.6	74.0	21.3	22.4
3	15960.0	44.8	44.2	43.3	36.4	18.1	0.7	61.0	60.4	74.0	13.0	13.6
4	21280.0	43.3	44.8	40.6	35.7	21.8	0.0	60.5	62.0	74.0	13.5	12.0

AV DETECT

No.	Freq. [MHz]	Reading		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result		Limit AV [dBuV/m]	Margin	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	2657.0	32.1	32.1	31.4	36.3	6.8	0.0	34.0	34.0	54.0	20.0	20.0
1	4986.6	32.1	32.3	36.2	36.1	9.6	0.0	41.8	42.0	54.0	12.2	12.0
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
2	10640.0	32.1	30.6	37.9	35.7	14.6	0.5	39.9	38.4	54.0	14.1	15.6
3	15960.0	31.6	31.9	43.3	36.4	18.1	0.7	47.8	48.1	54.0	6.2	5.9
4	21280.0	31.7	31.6	40.6	35.7	21.8	0.0	48.9	48.8	54.0	5.1	5.2

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) =

9.5 dB

* Except for the above table : All other spurious emissions were less than 20dB for the limit.

* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz

* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

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Radiated Spurious Emission (above 1GHz:Inside of the restricted band)

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY : CONTEC CO., LTD.
EQUIPMENT : Wireless LAN Access Point
MODEL : FX-DS540-APDL
SAMPLE NO. : 3IRBG10000057
POWER : DC3.3V(AC120V/60Hz)
MODE : Transmitting (11a / 54Mbps / CH149:5745MHz)
POSITION : MAX
REGULATION : Fcc Part15 Subpart E 15.407
TEST DISTANCE : 3m / 1m / 0.5m
DATE : 07/13/2004 and 07/14/2004
TEMPERATURE : 26°C and 28°C
HUMIDITY : 60% and 48%
ENGINEER : Hiroka Umeyama

PK DETECT

No.	Freq. [MHz]	Reading HOR VER [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR VER [dBuV/m]		Limit PK [dBuV/m]	Margin HOR VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	-	-	-					#VALUE!	#VALUE!	74.0	#VALUE!	#VALUE!
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11490.0	52.5	51.4	39.7	35.5	15.1	0.6	62.9	61.8	74.0	11.1	12.2
2	22980.0	44.5	43.4	40.8	35.9	22.5	0.0	62.4	61.3	74.0	11.6	12.7

AV DETECT

No.	Freq. [MHz]	Reading HOR VER [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR VER [dBuV/m]		Limit AV [dBuV/m]	Margin HOR VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	-	-	-					#VALUE!	#VALUE!	54.0	#VALUE!	#VALUE!
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11490.0	38.5	38.1	39.7	35.5	15.1	0.6	48.9	48.5	54.0	5.1	5.5
2	22980.0	30.8	30.8	40.8	35.9	22.5	0.0	48.7	48.7	54.0	5.3	5.3

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) =

9.5 dB

* Except for the above table : All other spurious emissions were less than 20dB for the limit.

* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz

* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission (above 1GHz:Inside of the restricted band)

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY	: CONTEC CO., LTD.	REGULATION	: Fcc Part15 Subpart E 15.407
EQUIPMENT	: Wireless LAN Access Point	TEST DISTANCE	: 3m / 1m / 0.5m
MODEL	: FX-DS540-APDL	DATE	: 07/13/2004 and 07/14/2004
SAMPLE NO.	: 3IRBG10000057	TEMPERATURE	: 26°C and 28°C
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 60% and 48%
MODE	: Transmitting (11a / 54Mbps / CH153:5765MHz)	ENGINEER	: Hiroka Umeyama
POSITION	: MAX		

PK DETECT

No.	Freq. [MHz]	Reading		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result		Limit PK [dBuV/m]	Margin	
		HOR [dBuV]	VER [dBuV]					HOR [dBuV/m]	VER [dBuV/m]		HOR [dB]	VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	2670.0	47.1	45.4	31.5	36.3	6.8	0.0	49.1	47.4	74.0	24.9	26.6
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11530.0	53.7	53.0	39.8	35.5	15.2	0.6	64.3	63.6	74.0	9.7	10.4
2	23060.0	43.7	44.2	40.7	35.8	22.5	0.0	61.6	62.1	74.0	12.4	11.9

AV DETECT

No.	Freq. [MHz]	Reading		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result		Limit AV [dBuV/m]	Margin	
		HOR [dBuV]	VER					HOR [dBuV/m]	VER		HOR [dB]	VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	2670.0	32.2	32.1	31.5	36.3	6.8	0.0	34.2	34.1	54.0	19.8	19.9
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11530.0	41.2	39.8	39.8	35.5	15.2	0.6	51.8	50.4	54.0	2.2	3.6
2	23060.0	30.8	30.8	40.7	35.8	22.5	0.0	48.7	48.7	54.0	5.3	5.3

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.5 dB

* Except for the above table : All other spurious emissions were less than 20dB for the limit.

* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz

* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission (above 1GHz:Inside of the restricted band)

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY	: CONTEC CO., LTD.	REGULATION	: Fcc Part15 Subpart E 15.407
EQUIPMENT	: Wireless LAN Access Point	TEST DISTANCE	: 3m / 1m / 0.5m
MODEL	: FX-DS540-APDL	DATE	: 07/13/2004 and 07/14/2004
SAMPLE NO.	: 3IRBG10000057	TEMPERATURE	: 26°C and 28°C
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 60% and 48%
MODE	: Transmitting (11a / 54Mbps / CH161:5805MHz)	ENGINEER	: Hiroka Umeyama
POSITION	: MAX		

PK DETECT

No.	Freq. [MHz]	Reading HOR VER [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR VER [dBuV/m]		Limit PK [dBuV/m]	Margin HOR VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	-	-	-					#VALUE!	#VALUE!	74.0	#VALUE!	#VALUE!
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11610.0	54.5	54.8	40.0	35.5	15.2	0.5	65.2	65.5	74.0	8.8	8.5
2	23220.0	43.1	42.8	40.4	35.7	22.4	0.0	60.7	60.4	74.0	13.3	13.6

AV DETECT

No.	Freq. [MHz]	Reading HOR VER [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR VER [dBuV/m]		Limit AV [dBuV/m]	Margin HOR VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	-	-	-					#VALUE!	#VALUE!	54.0	#VALUE!	#VALUE!
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11610.0	41.4	41.3	40.0	35.5	15.2	0.5	52.1	52.0	54.0	1.9	2.0
2	23220.0	31.5	31.6	40.4	35.7	22.4	0.0	49.1	49.2	54.0	4.9	4.8

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) =

9.5 dB

* Except for the above table : All other spurious emissions were less than 20dB for the limit.

* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz

* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission (above 1GHz:Outside of the restricted band)

***used conversion formula**

Radiated Spurious Emission (above 1GHz:Outside of the restricted band)

*** used conversion formula**

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY	: CONTEC CO., LTD.	REGULATION	: Fcc Part15 Subpart E 15.407
EQUIPMENT	: Wireless LAN Access Point	TEST DISTANCE	: 3m / 1m / 0.5m
MODEL	: FX-DS540-APDL	DATE	: 07/13/2004, 07/14/2004 and 07/23/2004
SAMPLE NO.	: 3IRBG10000057	TEMPERATURE	: 26°C, 28°C and 25°C
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 60% , 48% and 60%
MODE	: Transmitting (11a / 54Mbps / CH36:5180MHz)	ENGINEER	: Hiroka Umeyama
POSITION	: MAX		

No.	Freq. [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		Result (EIRP) [dBm]		Limit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	2592.00	57.7	58.8	-37.5	-36.4	-27.0	10.5	9.4
2	6216.00	67.9	64.3	-27.3	-30.9	-27.0	0.3	3.9
3	10360.00	60.9	56.1	-34.3	-39.1	-27.0	7.3	12.1
4	25900.00	65.1	64.7	-30.1	-30.5	-27.0	3.1	3.5
5	31080.00	57.8	58.2	-37.4	-37.0	-27.0	10.4	10.0
6	36260.00	63.1	62.4	-32.1	-32.8	-27.0	5.1	5.8

Result(EIRP[dBm])=10*LOG{(Electric Field Strength [V/m] * Distance:3[m]) ^ 2 } / 30)

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

*Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.

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MF060b(10.04.03)

Radiated Spurious Emission (above 1GHz:Outside of the restricted band)
***used conversion formula**

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY	: CONTEC CO., LTD.	REGULATION	: Fcc Part15 Subpart E 15.407
EQUIPMENT	: Wireless LAN Access Point	TEST DISTANCE	: 3m / 1m / 0.5m
MODEL	: FX-DS540-APDL	DATE	: 07/13/2004, 07/14/2004 and 07/23/2004
SAMPLE NO.	: 3IRBG10000057	TEMPERATURE	: 26°C, 28°C and 25°C
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 60% , 48% and 60%
MODE	: Transmitting (11a / 54Mbps / CH52:5260MHz)	ENGINEER	: Hiroka Umeyama
POSITION	: MAX		

No.	Freq. [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		Result (EIRP) [dBm]		Limit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	2632.00	61.7	61.6	-33.5	-33.6	-27.0	6.5	6.6
2	6312.30	59.5	58.7	-35.7	-36.5	-27.0	8.7	9.5
3	10520.00	61.2	53.9	-34.0	-41.3	-27.0	7.0	14.3
4	26300.00	66.9	66.2	-28.3	-29.0	-27.0	1.3	2.0
5	31560.00	57.7	57.6	-37.5	-37.6	-27.0	10.5	10.6
6	36820.00	61.9	63.1	-33.3	-32.1	-27.0	6.3	5.1

Result(EIRP[dBm])=10*LOG{(Electric Field Strength [V/m] * Distance:3[m]) ^ 2 } / 30)

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

*Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission (above 1GHz:Outside of the restricted band)
***used conversion formula**

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY	: CONTEC CO., LTD.	REGULATION	: Fcc Part15 Subpart E 15.407
EQUIPMENT	: Wireless LAN Access Point	TEST DISTANCE	: 3m / 1m / 0.5m
MODEL	: FX-DS540-APDL	DATE	: 07/13/2004, 07/14/2004 and 07/
SAMPLE NO.	: 3IRBG10000057	TEMPERATURE	: 26°C, 28°C and 25°C
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 60% , 48% and 60%
MODE	: Transmitting (11a / 54Mbps / CH64:5320MHz)	ENGINEER	: Hiroka Umeyama
POSITION	: MAX		

No.	Freq. [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		Result (EIRP) [dBm]		Limit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	26600.00	55.4	55.1	-39.8	-40.1	-27.0	12.8	13.1
2	31920.00	61.5	61.3	-33.7	-33.9	-27.0	6.7	6.9
3	37240.00	64.5	64.3	-30.7	-30.9	-27.0	3.7	3.9

Result(EIRP[dBm])=10*LOG({ (Electric Field Strength [V/m] * Distance:3[m]) ^ 2 } / 30)

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

*Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission (above 1GHz:Outside of the restricted band)
***used conversion formula**

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY	: CONTEC CO., LTD.	REGULATION	: Fcc Part15 Subpart E 15.407
EQUIPMENT	: Wireless LAN Access Point	TEST DISTANCE	: 3m / 1m / 0.5m
MODEL	: FX-DS540-APDL	DATE	: 07/13/2004, 07/14/2004 and 07/23/2004
SAMPLE NO.	: 3IRBG10000057	TEMPERATURE	: 26°C, 28°C and 25°C
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 60% , 48% and 60%
MODE	: Transmitting (11a / 54Mbps / CH149:5745MHz)	ENGINEER	: Hiroka Umeyama
POSITION	: MAX		

No.	Freq. [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		Result (EIRP) [dBm]		Limit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	2638.00	49.8	49.5	-45.4	-45.7	-27.0	18.4	18.7
2	17235.00	64.4	64.4	-30.8	-30.8	-27.0	3.8	3.8
3	28725.00	52.9	54.1	-42.3	-41.1	-27.0	15.3	14.1
4	34470.00	58.9	60.2	-36.3	-35.0	-27.0	9.3	8.0

Result(EIRP[dBm])=10*LOG(((Electric Field Strength [V/m] * Distance:3[m]) ^ 2) / 30)

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

*Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission (above 1GHz:Outside of the restricted band)
***used conversion formula**

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY	: CONTEC CO., LTD.	REGULATION	: Fcc Part15 Subpart E 15.407
EQUIPMENT	: Wireless LAN Access Point	TEST DISTANCE	: 3m / 1m / 0.5m
MODEL	: FX-DS540-APDL	DATE	: 07/13/2004, 07/14/2004 and 07/
SAMPLE NO.	: 3IRBG10000057	TEMPERATURE	: 26°C, 28°C and 25°C
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 60% , 48% and 60%
MODE	: Transmitting (11a / 54Mbps / CH153:5765MHz)	ENGINEER	: Hiroka Umeyama
POSITION	: MAX		

No.	Freq. [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		Result (EIRP) [dBm]		Limit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	5705.00	60.3	59.9	-34.9	-35.3	-27.0	7.9	8.3
2	17295.00	64.1	63.9	-31.1	-31.3	-27.0	4.1	4.3
3	28825.00	54.3	53.6	-40.9	-41.6	-27.0	13.9	14.6
4	34590.00	61.4	61.8	-33.8	-33.4	-27.0	6.8	6.4

Result(EIRP[dBm])=10*LOG((Electric Field Strength [V/m] * Distance:3[m]) ^ 2) / 30)

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

*Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission (above 1GHz:Outside of the restricted band)
***used conversion formula**

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY	: CONTEC CO., LTD.	REGULATION	: Fcc Part15 Subpart E 15.407
EQUIPMENT	: Wireless LAN Access Point	TEST DISTANCE	: 3m / 1m / 0.5m
MODEL	: FX-DS540-APDL	DATE	: 07/13/2004, 07/14/2004 and 07/23/2004
SAMPLE NO.	: 3IRBG10000057	TEMPERATURE	: 26°C, 28°C and 25°C
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 60% , 48% and 60%
MODE	: Transmitting (11a / 54Mbps / CH161:5805MHz)	ENGINEER	: Hiroka Umeyama
POSITION	: MAX		

No.	Freq. [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		Result (EIRP) [dBm]		Limit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	2651.00	48.8	48.8	-46.4	-46.4	-27.0	19.4	19.4
2	5440.00	59.7	57.8	-35.5	-37.4	-27.0	8.5	10.4
3	17415.00	64.7	63.3	-30.5	-31.9	-27.0	3.5	4.9
4	23220.00	60.7	60.4	-34.5	-34.8	-27.0	7.5	7.8
5	29025.00	53.9	53.4	-41.3	-41.8	-27.0	14.3	14.8
6	34830.00	60.9	60.8	-34.3	-34.4	-27.0	7.3	7.4

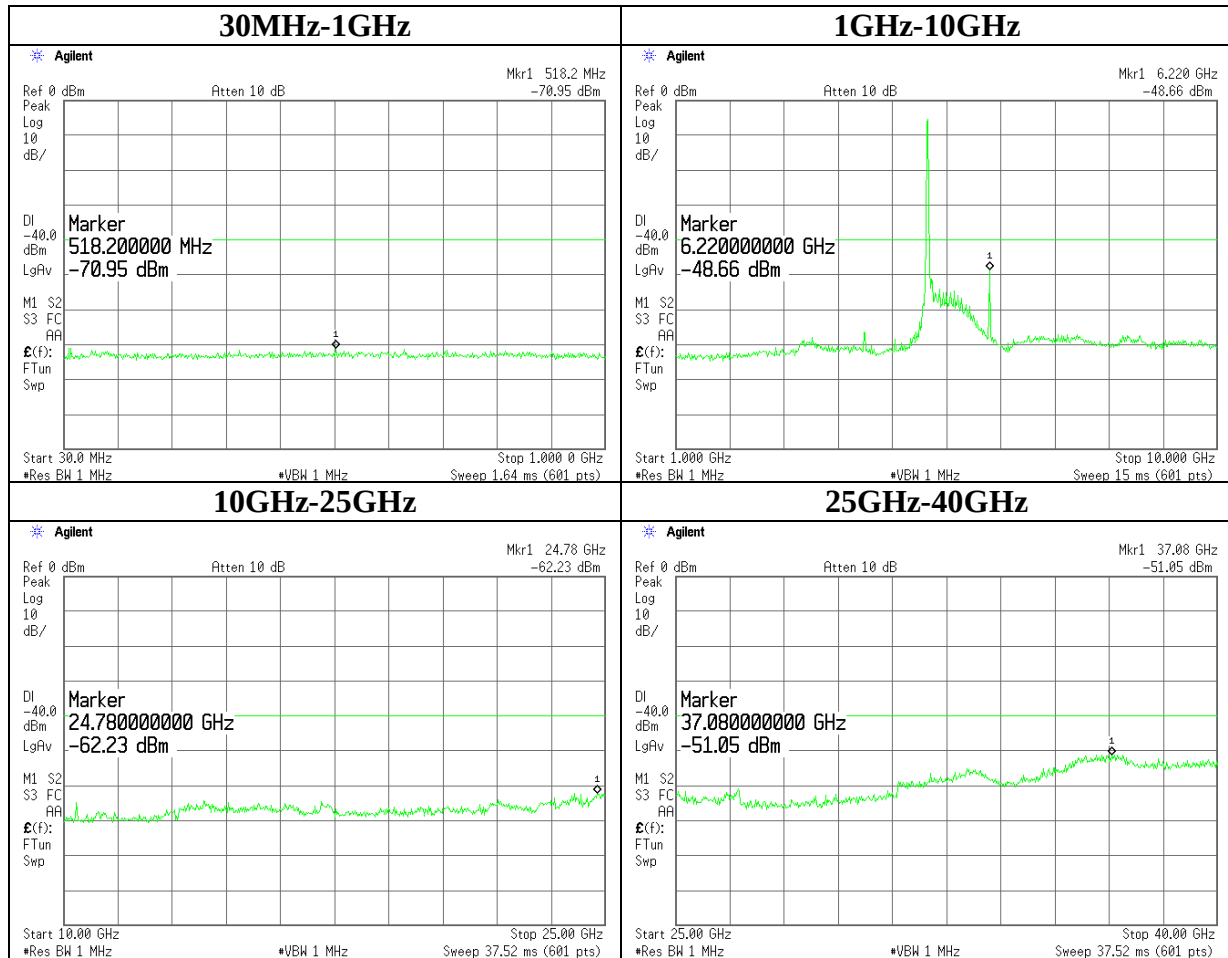
Result(EIRP[dBm])=10*LOG{(Electric Field Strength [V/m] * Distance:3[m]) ^ 2 } / 30)

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

*Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.

Conducted Spurious Emission(DSSS and other forms of modulation)

Ch : 36



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Head Office EMC Lab.

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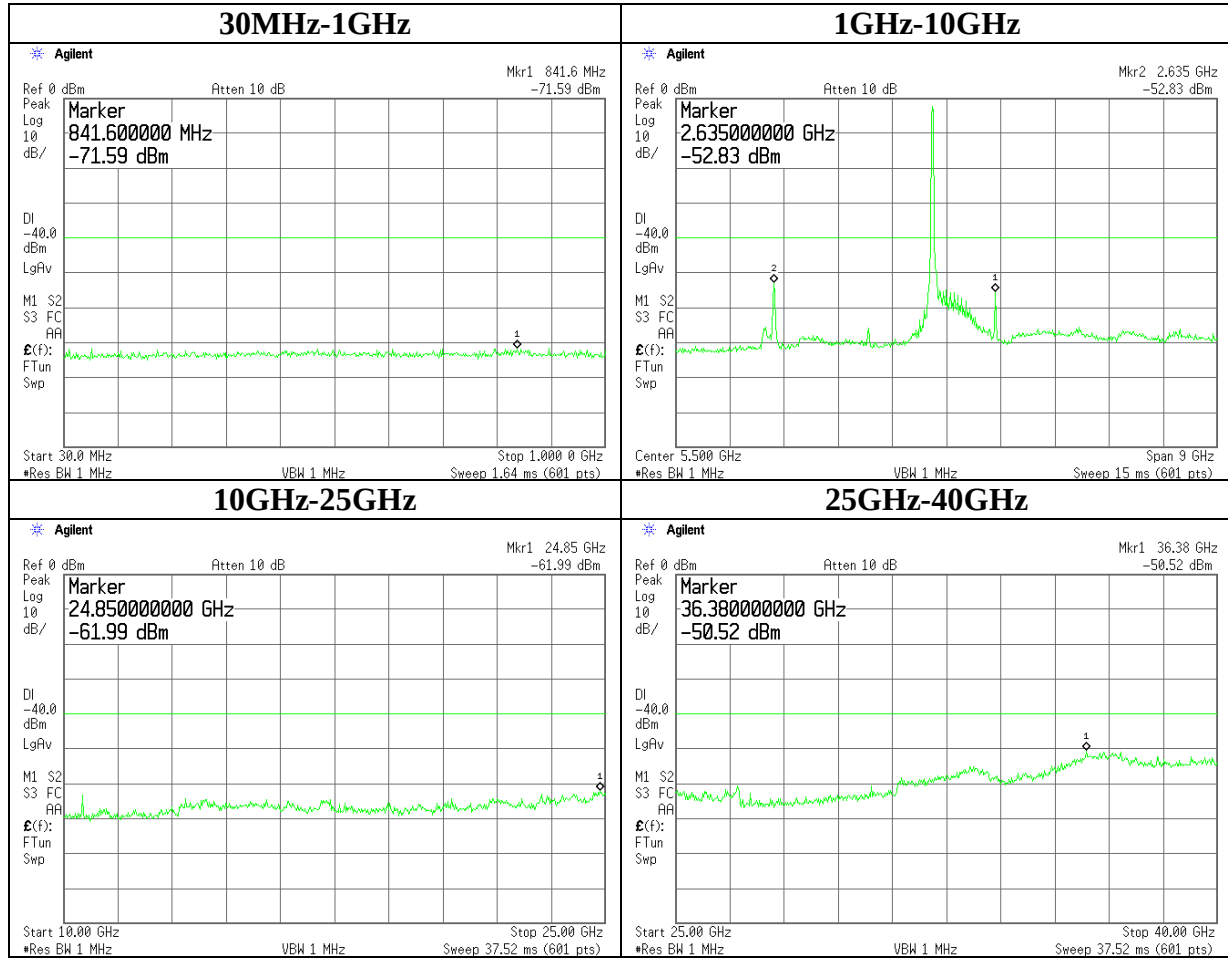
Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

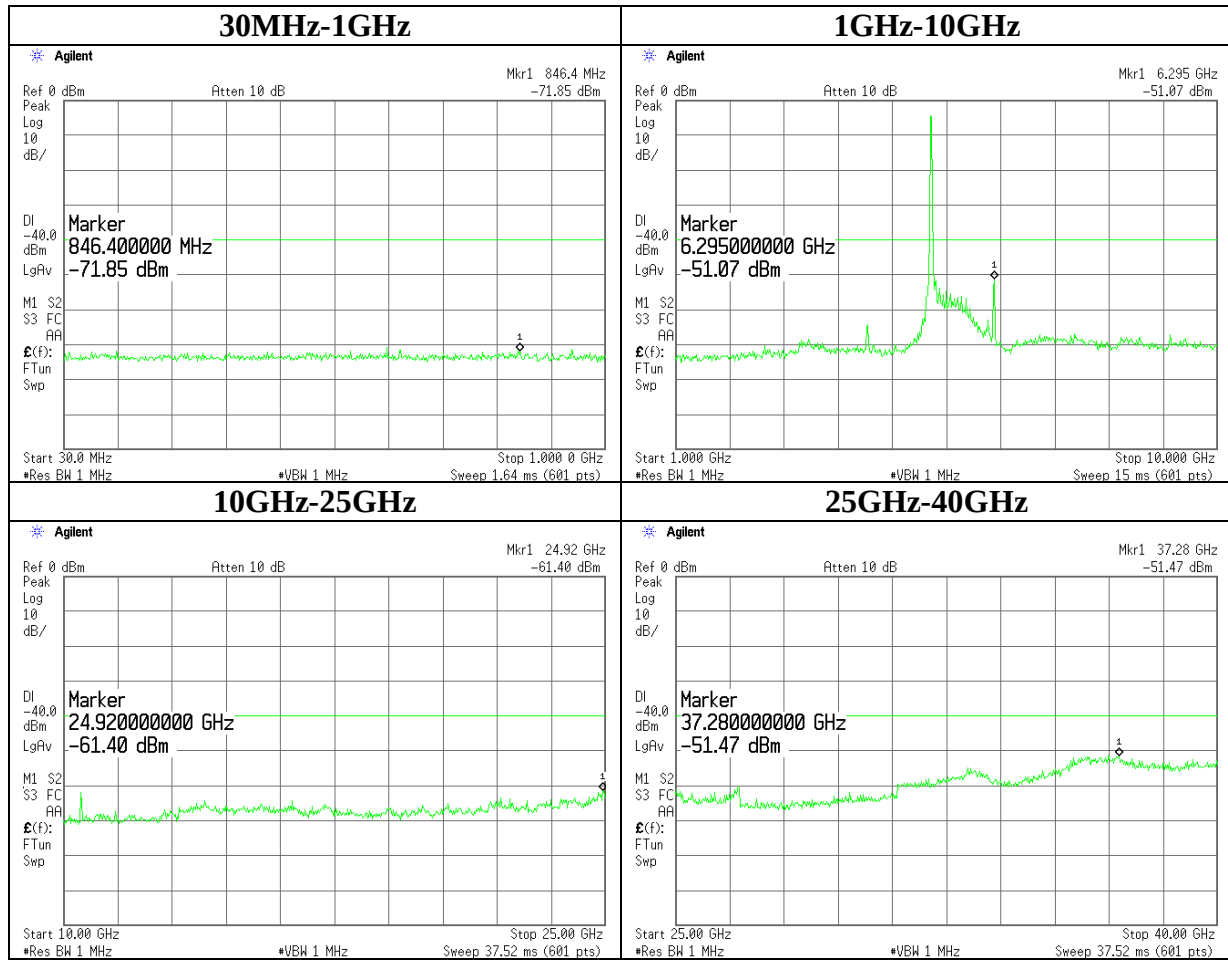
Conducted Spurious Emission(DSSS and other forms of modulation)

Ch : 52



Conducted Spurious Emission(DSSS and other forms of modulation)

Ch : 64



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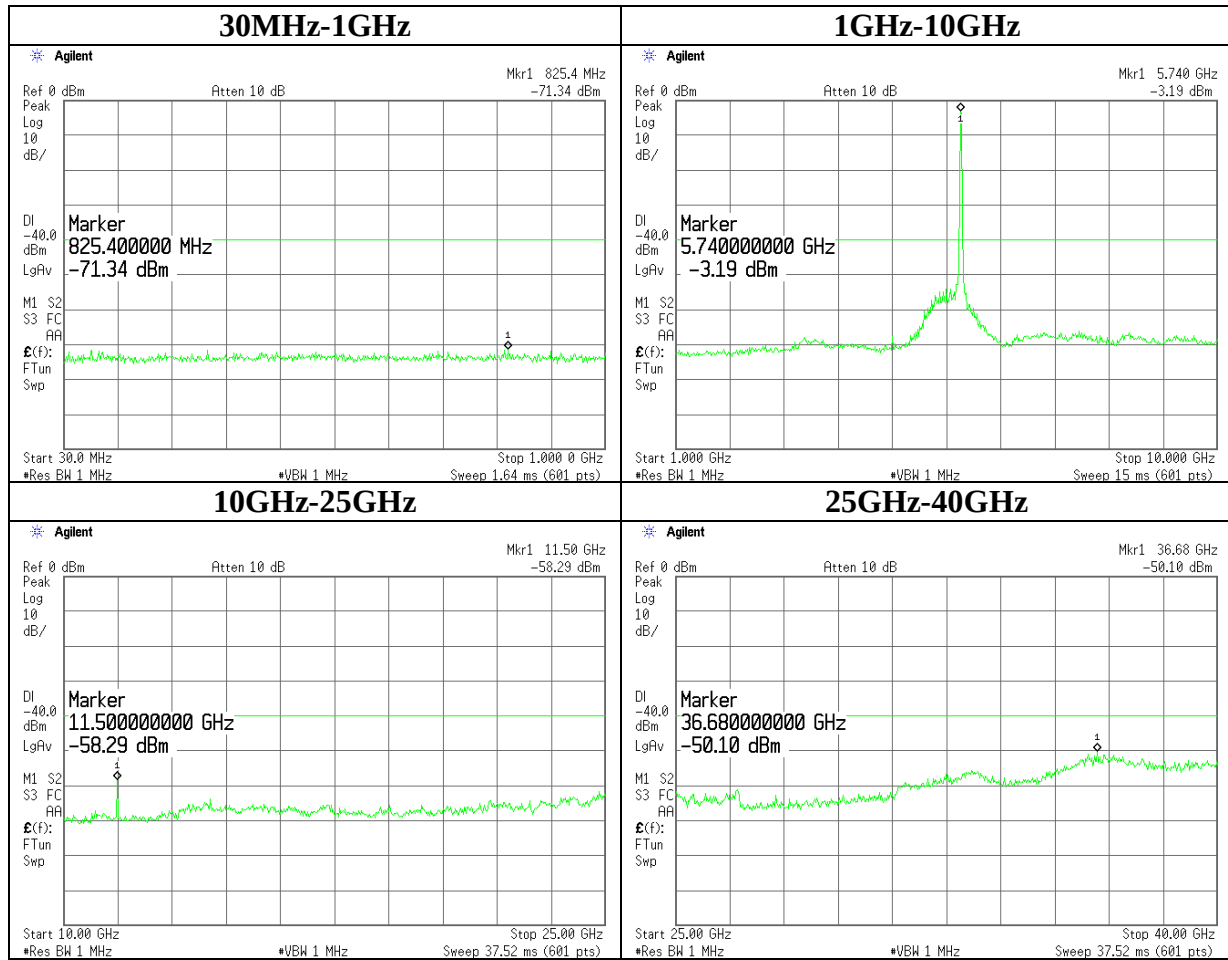
Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

Conducted Spurious Emission(DSSS and other forms of modulation)

Ch : 149



UL Apex Co., Ltd.

Head Office EMC Lab.

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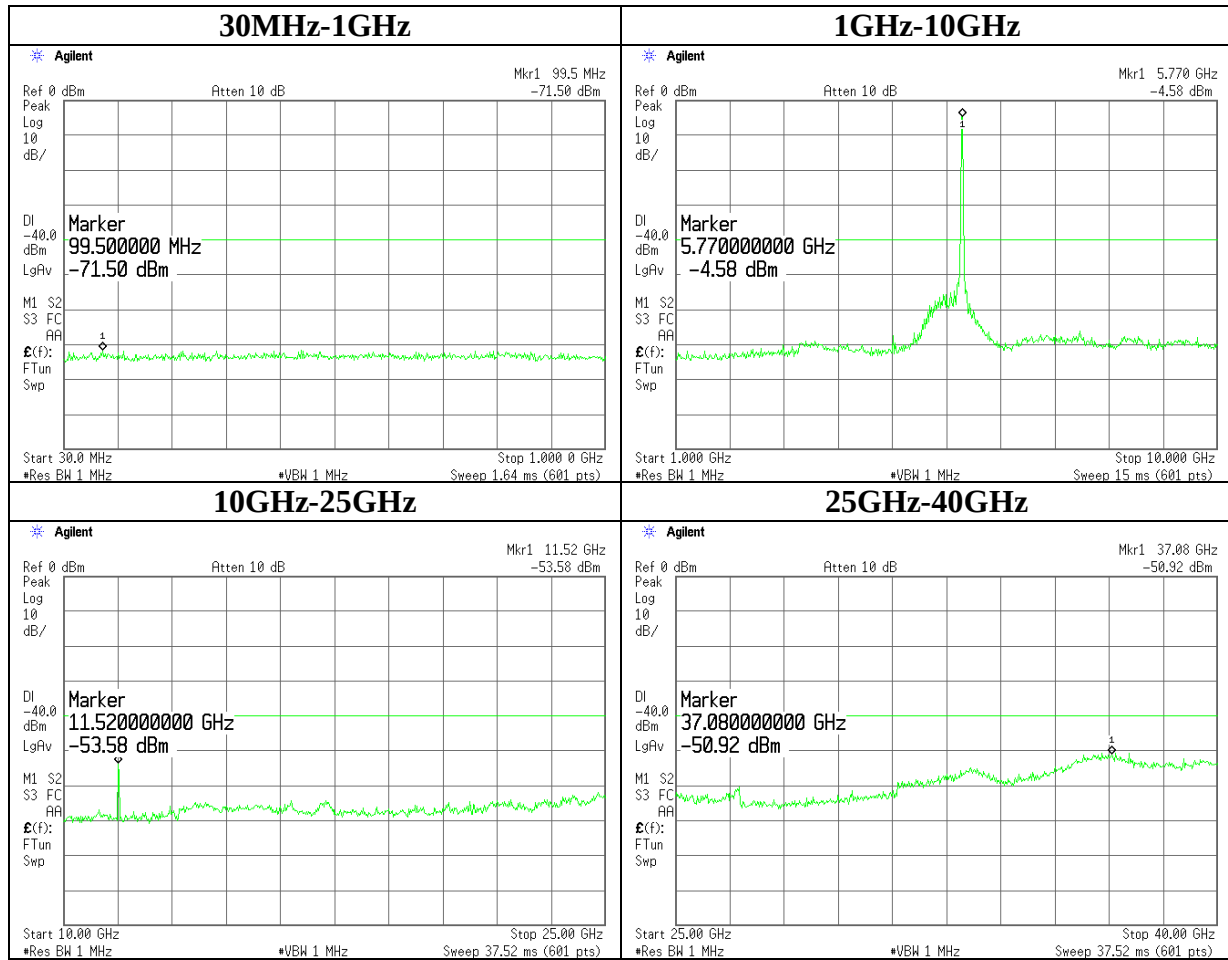
Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

Conducted Spurious Emission(DSSS and other forms of modulation)

Ch : 153



UL Apex Co., Ltd.

Head Office EMC Lab.

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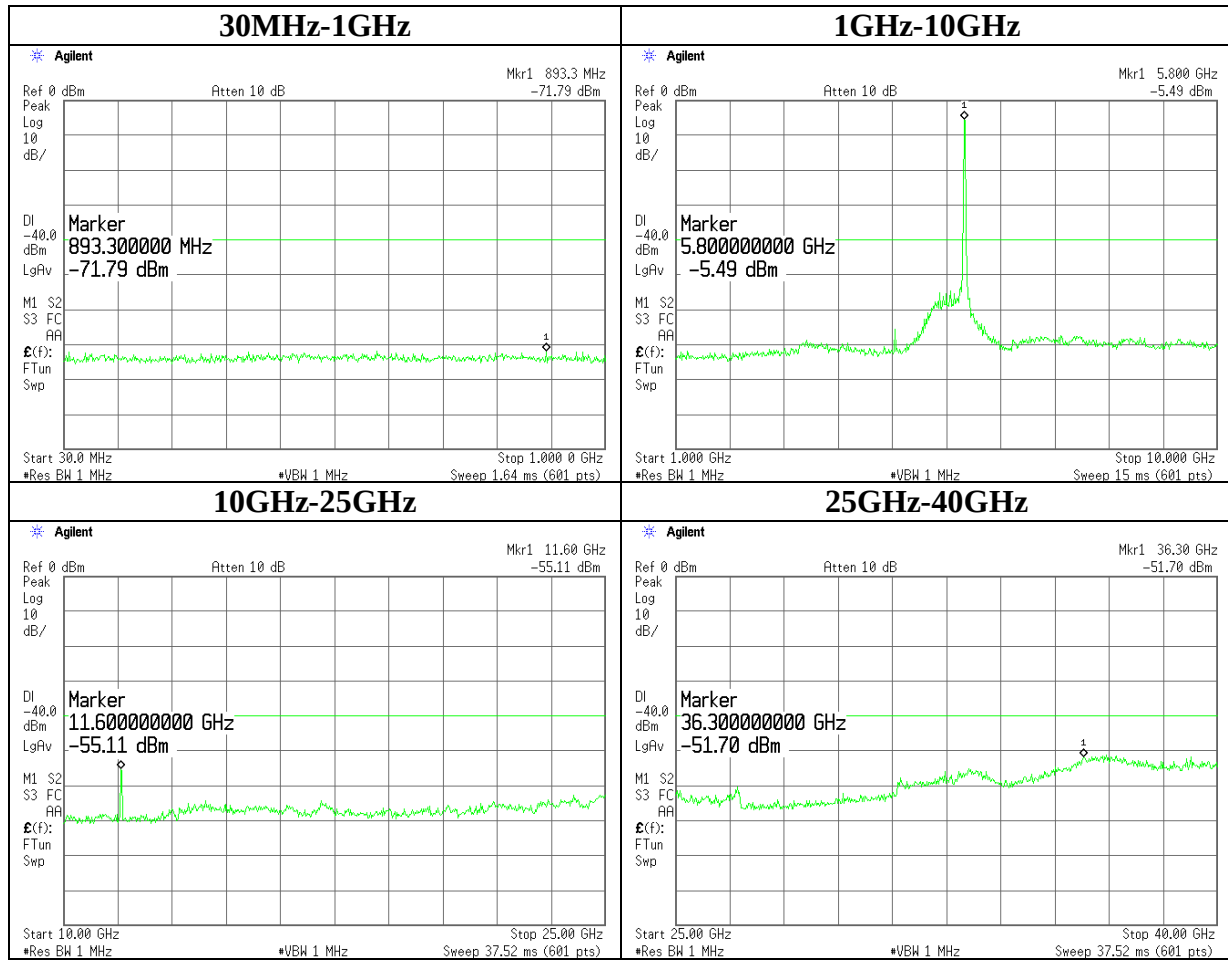
Telephone : +81 596 24 8116

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MF060b(10.04.03)

Conducted Spurious Emission(DSSS and other forms of modulation)

Ch : 161



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MF060b(10.04.03)

Radiated emission Band Edge compliance

DATA OF SPURIOUS EMISSIONS TEST (25MHz-4GHz)

UL Apex Co., Ltd.
Head Office EMC Lab. Semi Anechoic Chamber : No.2

Company	: CONTEC CO.,LTD.	REPORT NO	FCC15.407
Equipment	: Wireless LAN Access Point	REGULATION	3m
Model	: FX-DS540-APDL	TEST DISTANCE	07/09/2004
Sample No.	: 3IRBG10000057	DATE	26°C
Power	: DC3.3V	TEMPERATURE	65%
MODE	Tx	HUMIDITY	OK
POSITION	H: Y-axis / V: Y-axis	CALIBRATION	ENGINEER
TX ANTENNA HIGH	0.8m		Hiroka Umeyama

No.	FREQUENCY [MHz]	(After Factor Calculation) [dBuV/m]		RESULT (EIRP) [dBm] (dBm)		LIMIT [dBm] (EIRP)	MARGIN [dB]		Mode
		HOR	VER	HOR	VER		HOR	VER	
1	5705.00	63.9	60.8	-38.8	-41.7	-27.0	11.8	14.7	Operating
2	5715.00	65.3	59.9	-37.4	-42.6	-27.0	10.4	15.6	Operating
3	5725.00	77.8	73.4	-24.8	-29.1	-17.0	7.8	12.1	Operating
4	5825.00	76.4	74.8	-26.1	-27.5	-17.0	9.1	10.5	Operating
5	5835.00	59.8	59.1	-42.7	-43.2	-27.0	15.7	16.2	Operating
6	5845.00	63.3	61.5	-39.1	-40.8	-27.0	12.1	13.8	Operating

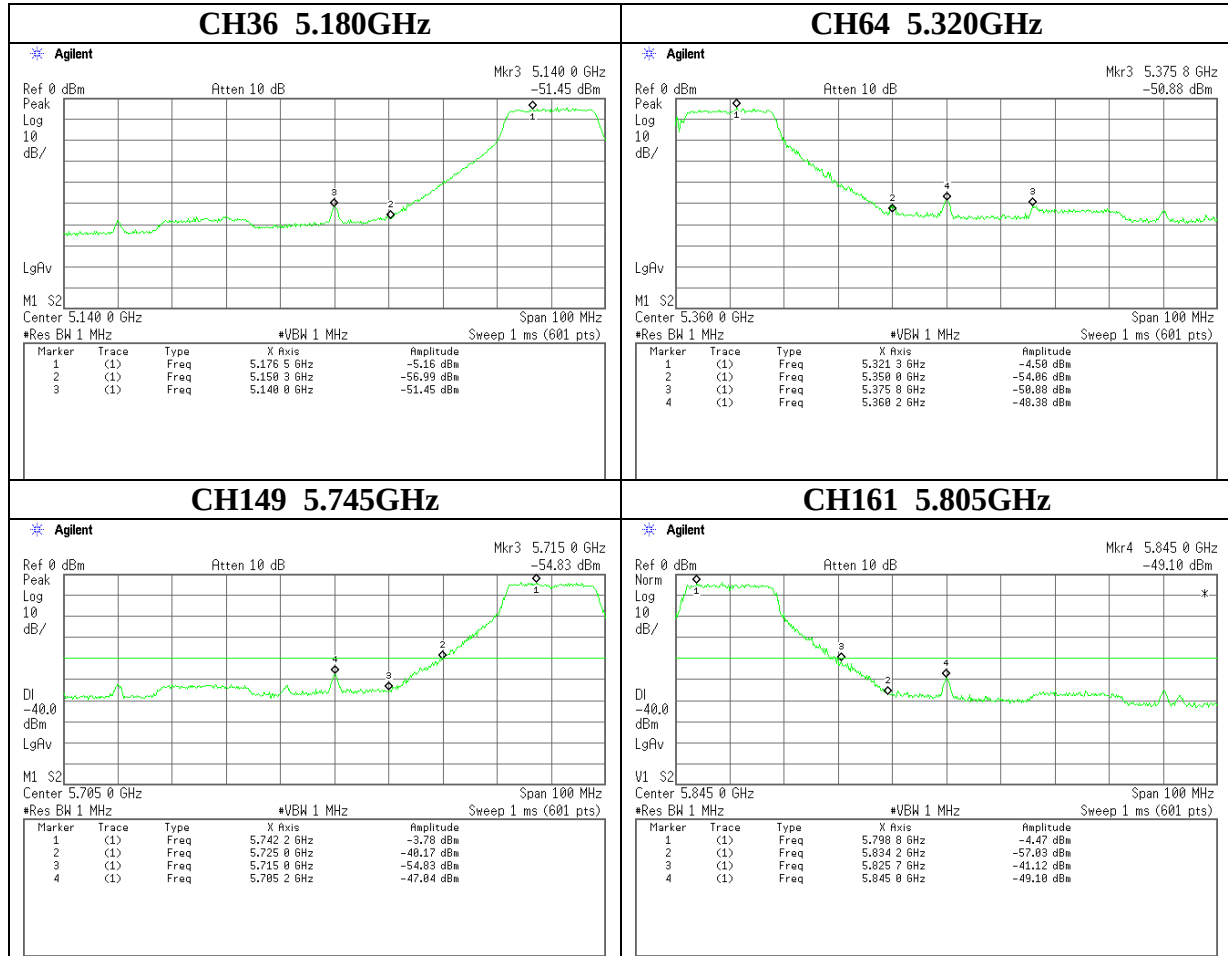
Rx-ANTENNA : Biconical Antenna(25-300MHz), Logperiodic Antenna(300-1000MHz), Horn Antenna(1-12.75GHz)
Tx-ANTENNA : Dipole Antenna(25-1000MHz), Horn Antenna(1-12.75GHz)

PK DETECT (RBW: 1MHz, VBW:1MHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV/m]	[dBuV/m]					[dB]	[dB]		[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	5140.0	50.2	48.3	36.2	35.9	9.8	0.0	60.3	58.4	74.0	13.7	15.6
2	5150.0	46.5	46.3	36.3	35.9	9.9	0.0	56.8	56.6	74.0	17.2	17.4
3	5350.0	48.7	52.2	36.2	35.8	10.0	0.0	59.1	62.6	74.0	14.9	11.4
4	5360.0	52.0	53.5	36.1	35.8	10.0	0.0	62.3	63.8	74.0	11.7	10.2

AV DETECT (RBW: 1MHz, VBW:10Hz)												
No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV/m]	[dBuV/m]					[dB]	[dB]		[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	5140.0	43.0	41.9	36.2	35.9	9.8	0.0	53.1	52.0	54.0	0.9	2.0
2	5150.0	35.7	36.1	36.3	35.9	9.9	0.0	46.0	46.4	54.0	8.0	7.6
3	5350.0	33.4	38.1	36.2	35.8	10.0	0.0	43.8	48.5	54.0	10.2	5.5
4	5360.0	43.4	43.3	36.1	35.8	10.0	0.0	53.7	53.6	54.0	0.3	0.4

Conducted emission Band Edge compliance



Peak Power Spectral Density

UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

Company : CONTEC CO.,LTD.
Equipment : Wireless LAN Access Point
Model : FX-DS540-APDL
Sample No. : 3IRBG10000057
Power : DC3.3V
Mode : Tx IEEE 802.11a 54Mbps
: Continuous Transmitting

REPORT NO : 24GE0302-HO
REGULATION : FCC 15.407(a)(1)(2)(3)
TEST DISTANCE : -
DATE : 07/08/2004
TEMPERATURE : 25deg.C
HUMIDITY : 60%
ENGINEER : Hiroka Umeyama

Ch	Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
36	5180.0	-14.60	2.9	10.0	-1.7	4.0	5.7
52	5260.0	-13.68	2.9	10.0	-0.8	4.0	4.8
64	5320.0	-14.99	2.9	10.0	-2.1	11.0	13.1
149	5745.0	-13.83	3.0	10.0	-0.8	17.0	17.8
153	5765.0	-12.49	3.0	10.0	0.5	17.0	16.5
161	5805.0	-13.55	3.0	10.0	-0.6	17.0	17.6

Sample Calculation:

Result = Reading + Cable Loss + Attenuator

* Atten. was not used for factor 0.0dB of the above table.

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Head Office EMC Lab.

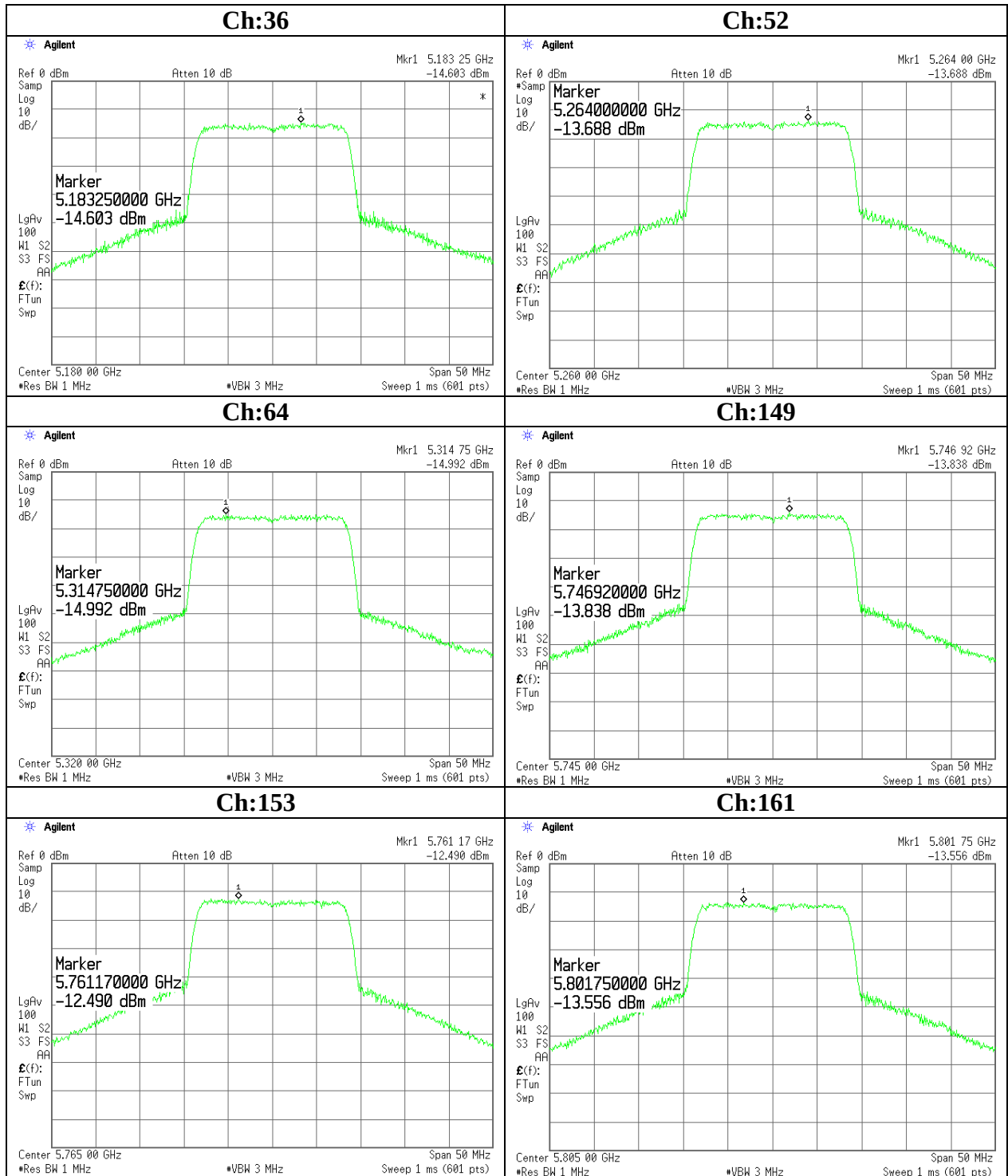
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Peak Power Spectral Density



Peak Excursion Ratio

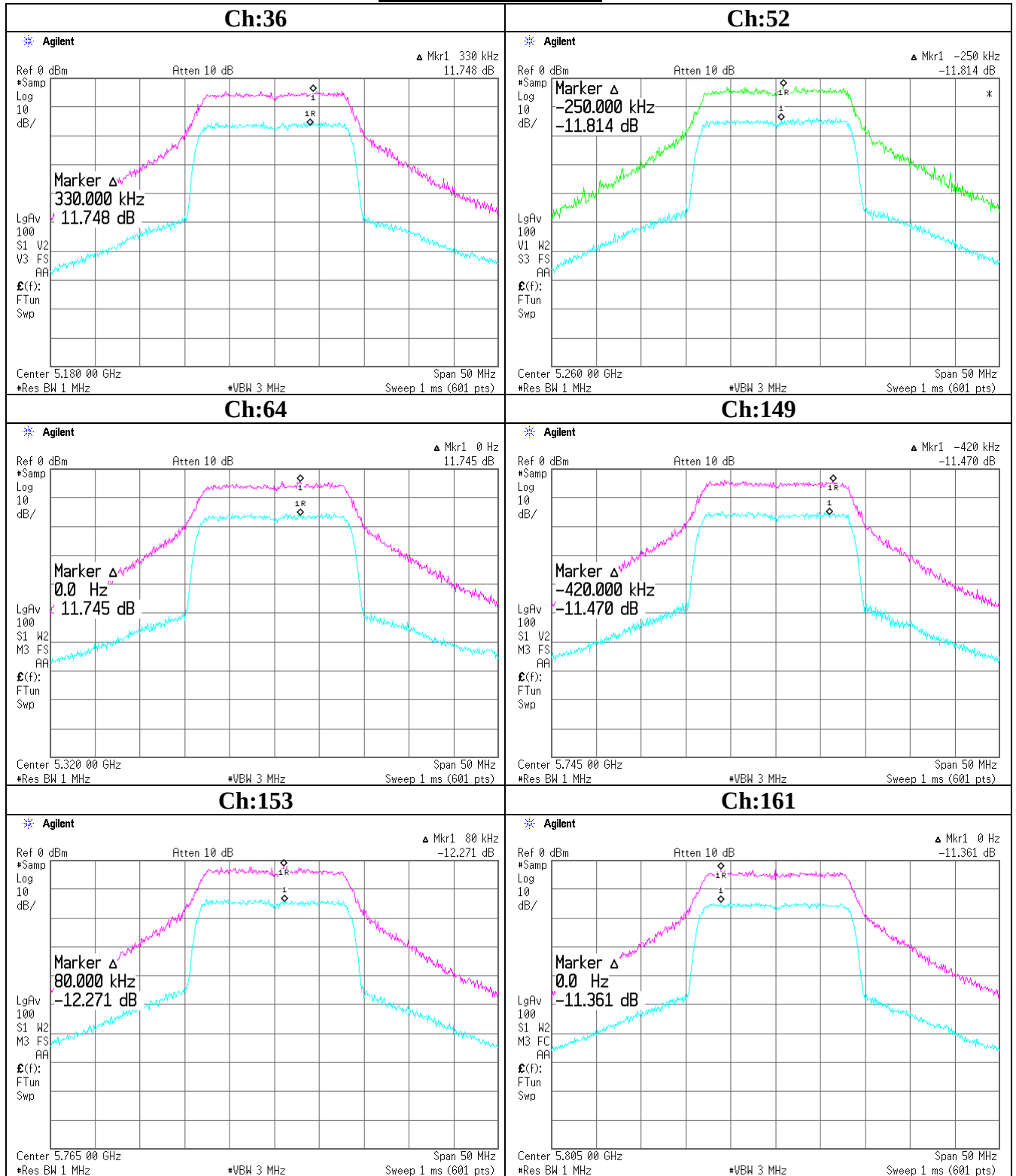
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

Company : CONTEC CO.,LTD.
Equipment : Wireless LAN Access Point
Model : FX-DS540-APDL
Sample No. : 3IRBG10000057
Power : DC3.3V
Mode : Tx IEEE 802.11a 54Mbps
: Continuous Transmitting

REPORT NO : 24GE0302-HO
REGULATION : FCC 15.407(a)(6)
TEST DISTANCE : -
DATE : 07/08/2004
TEMPERATURE : 25deg.C
HUMIDITY : 60%
ENGINEER : Hiroka Umeyama

Ch	Freq. [MHz]	Peak Power Excursion [dB]	Limit [dB]
36	5180.0	11.748	13.0
52	5260.0	11.814	13.0
64	5320.0	11.745	13.0
149	5745.0	11.470	13.0
153	5765.0	12.271	13.0
161	5805.0	11.361	13.0

Peak Excursion Ratio



99% Occupied Bandwidth

