



EMI TEST REPORT

Test Report No. : 25CE0272-HO-2

Applicant : CONTEC CO., LTD.
Type of Equipment : Wireless LAN MiniPCI Card User Unit
Model No. : FX-DS540-MPCI4W
Test standard : FCC Part 15 Subpart E
Section 15.407 : 2004
FCC ID : PQRDS540-MPCI4W
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:

November 4 to 15, 2004

Tested by :

Hiroka Umeyama
EMC Service

Tested by :

Keiichi Aoki
EMC Service

Approved by :

Naoki Sakamoto
Group Leader of
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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*0)	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	0.7dB 480.001MHz, Ver. (5180MHz) 480.000MHz, Ver. (5260MHz) (5320MHz) (5745MHz)	Complied
7	AC Conducted Emission	ANSI C63.4:2003	Section 15.407(b)(6)/15.207	-	N/A	10.5dB 0.5007MHz Phase L (AV)	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.
*0) The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
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 ±1.3dB.
Spurious Emission (Radiated)
The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is ±4.5dB(3m)/ ±4.7dB(10m).
The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is ±5.2dB(3m)/ ±3.8dB(10m).
The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is ±6.6dB.
Other test except Conducted Emission and Spurious Emission (Radiated)
The measurement uncertainty (with a 95% confidence level) for this test is ±3.0dB.

*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.

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 + Amendment4:2004	RSS210(issue 5): 2001 + Amendment:2002 + Amendment2:2003 + Amendment3:2004 + Amendment4:2004	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.

Packet Type : Maximum
Payload : PN9
Operation : Transmitting mode (OFDM 36Mbps/54Mbps) * See Remarks.
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 (ANT A and B). 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 ANT A and ANT B; therefore, the testing was conducted with the representative antenna, ANT A for all tests.

These antennas are identical to each other in type, gain and cable length, and have two ways of installation positions, horizontally and vertically.

The confirmation was made with these two ways and there was no difference in level results. Therefore, the final test was made with EUT installed vertically.

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 11Mbps(IEEE802.11b)/36Mbps(IEEE802.11g/a) modulation as the highest data rate.

IEEE802.11g/a had a maximum level in 36Mbps so that the test was made with 36Mbps. And as for the all tests for Radiated Spurious Emission and Peak Transmit Power, the test was made with 36Mbps and 54Mbps.

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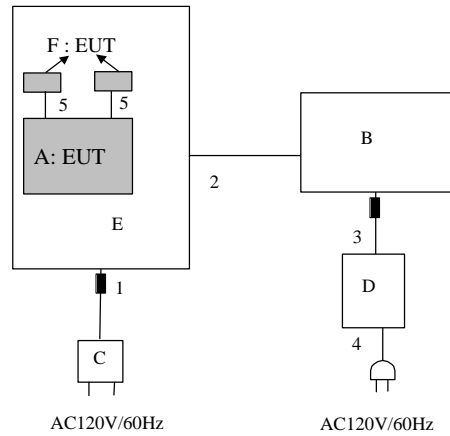
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4.2 Configuration and peripherals



■ : Ferrite Core

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

* Radiated Spurious Emission was measured in the configuration that the enclosure has been removed off the main board.

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	FCC ID
A	Wireless LAN MiniPCI Card User Unit	FX-DS540-MPCI4W	04MC2D1	CONTEC	PQRDS540-MPCI4W
B	Note PC	ThinkPad G40	KM-77534 0310	IBM	DOC
C	AC Adapter	VHE10P1-33MP	-	AK-II	-
D	AC Adapter	02K7095	11S02K7089Z1Z6C 43911MD	IBM	-
E	Main Board of Wireless LAN Access Point	FX-DS540-APDL	-	CONTEC	DOC
F	Chip Antenna	-	-	FDK	-

List of cables used

No.	Name	Length (m)	Shield	Backshell Material
1	DC Cable	1.5	N	Polyvinyl chloride
2	LAN Cross Cable	1.5	N	Polyvinyl chloride
3	DC Cable	1.8	N	Polyvinyl chloride
4	AC Cable	1.0	N	Polyvinyl chloride
5	Antenna Cable	0.075	Y	Coaxial

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SECTION 5: Conducted Emission

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

[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

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

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

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

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

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This page has been submitted as a separate exhibit.

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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-07	Termination	MCL	BTRM-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
MTR-02	Test Receiver	Rohde & Schwarz	ESCS30	2004/02/03 * 12
MRENT-09	Spectrum Analyzer	Advantest	R3273	2004/02/18 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	2004/02/24 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	2003/12/16 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	2004/10/14 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	2004/10/14 * 12
MPA-06	Pre Amplifier	Hewlett Packard	8447D	2004/08/29 * 12
MCC-04	Microwave Cable	Storm	421-011	2004/01/06 * 12
MCC-29	Microwave Cable	Suhner	SUCOFLEX10 1	2004/08/26 * 12
MPA-01	Pre Amplifier	Agilent	8449B	2004/02/06 * 12
MHA-06	Horn Antenna	Schwarzbeck	BBHA9120D	2004/01/10 * 12
MHA-02	Horn Antenna	EMCO	3160-09	2004/01/10 * 12
MBF-03	SHF Bandpass Filter	M-City	13GHz BPF	2004/05/21 * 12
MHF-02	High Pass Filter	Tokimec	TF323DCA	2004/09/18 * 12
MPA-03	Microwave System Power Amplifier	Agilent	83050A	2004/06/12 * 12
MCC-11	Microwave coaxial cable	Suhner	SUCOFLEX 104	2004/03/26 * 12
MHA-04	Horn Antenna	EMCO	3160-10	2004/01/10 * 12
MSA-03	Spectrum Analyzer	Agilent	E4448A	2004/06/12 * 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-23	Attenuator(10dB)(above1GHz)	Orient Microwave	BX10-0476-00	2004/03/30 * 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

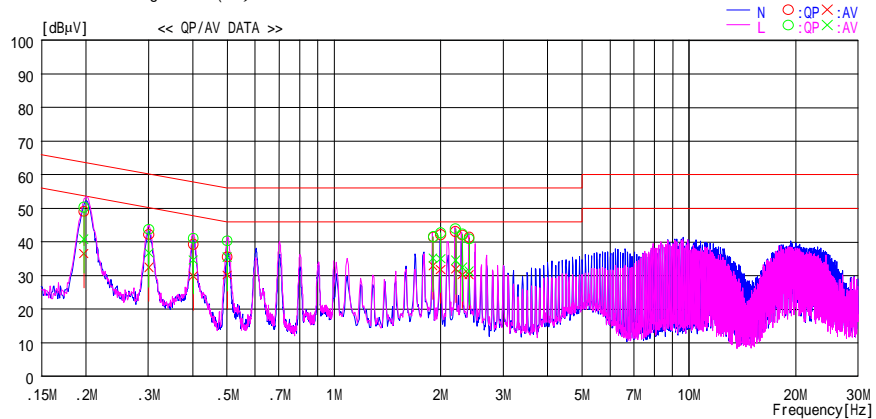
DATA OF CONDUCTED EMISSION TEST

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

Applicant : CONTEC Co., Ltd. Report No. : 25CE0272-HO
 Kind of EUT : Wireless LAN MiniPCI Card User Unit Power : DC3.3V AC Adapter AC120V / 60Hz
 Model No. : FX-DS540-MPCI4W Temp /Humi% : 23 deg.C / 42 %
 Serial No. : 04MC2D1 Operator : Keiichi Aoki

Mode / Remarks : Transmitting 11a/5180MHz/36Mbps

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



NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBµV]	AV [dBµV]		QP [dBµV]	AV [dBµV]	QP [dBµV]	AV [dBµV]	QP [dBµV]	AV [dBµV]	
1	0.1975	48.9	36.3	0.2	49.1	36.5	63.7	53.7	14.6	17.2	N
2	0.3009	41.9	32.2	0.3	42.2	32.5	60.2	50.2	18.0	17.7	N
3	0.4011	38.8	29.3	0.5	39.3	29.8	57.8	47.8	18.5	18.0	N
4	0.5007	35.0	29.5	0.6	35.6	30.1	56.0	46.0	20.4	15.9	N
5	1.9019	41.0	32.6	0.4	41.4	33.0	56.0	46.0	14.6	13.0	N
6	2.0022	41.7	31.5	0.4	42.1	31.9	56.0	46.0	13.9	14.1	N
7	2.2013	42.7	31.7	0.4	43.1	32.1	56.0	46.0	12.9	13.9	N
8	2.3031	41.5	29.8	0.5	42.0	30.3	56.0	46.0	14.0	15.7	N
9	2.4036	40.8	29.7	0.5	41.3	30.2	56.0	46.0	14.7	15.8	N
10	0.1975	50.1	40.6	0.2	50.3	40.8	63.7	53.7	13.4	12.9	L
11	0.3009	43.4	36.4	0.3	43.7	36.7	60.2	50.2	16.5	13.5	L
12	0.4011	40.5	34.2	0.5	41.0	34.7	57.8	47.8	16.8	13.1	L
13	0.5007	39.7	34.9	0.6	40.3	35.5	56.0	46.0	15.7	10.5	L
14	1.9019	41.2	34.8	0.4	41.6	35.2	56.0	46.0	14.4	10.8	L
15	2.0022	42.3	34.6	0.4	42.7	35.0	56.0	46.0	13.3	11.0	L
16	2.2013	43.5	34.2	0.4	43.9	34.6	56.0	46.0	12.1	11.4	L
17	2.3031	41.8	32.0	0.5	42.3	32.5	56.0	46.0	13.7	13.5	L
18	2.4036	40.4	30.8	0.5	40.9	31.3	56.0	46.0	15.1	14.7	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.

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Model No. : FX-DS540-MPCI4W Temp /Humi% : 23 deg.C / 42 %
Serial No. : 04MC2D1 Operator : Keiichi Aoki

Mode / Remarks : Transmitting 11a/5180MHz/36Mbps

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

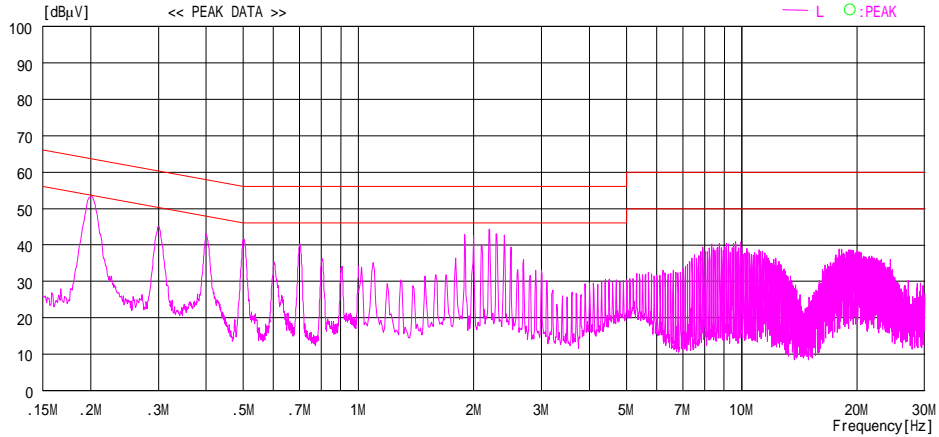
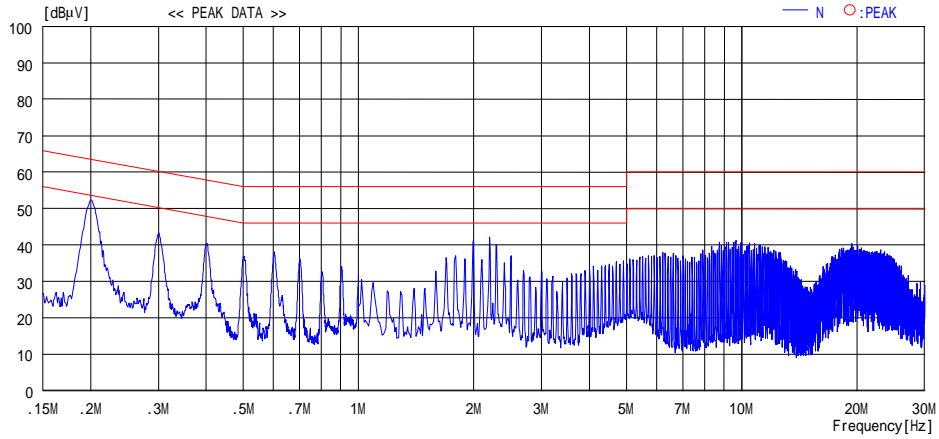


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

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Model No. : FX-DS540-MPCI4W	Temp /Humi% : 23 deg.C / 42 %
Serial No. : 04MC2D1	Operator : Keiichi Aoki

Mode / Remarks : Transmitting 11a/5260MHz/36Mbps

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

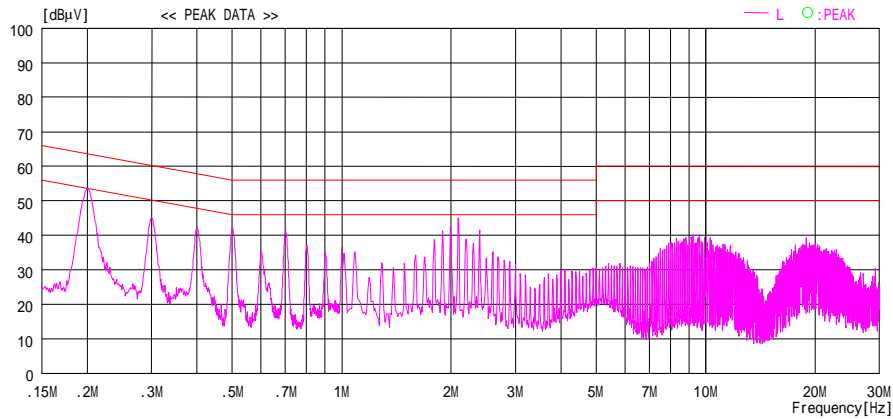
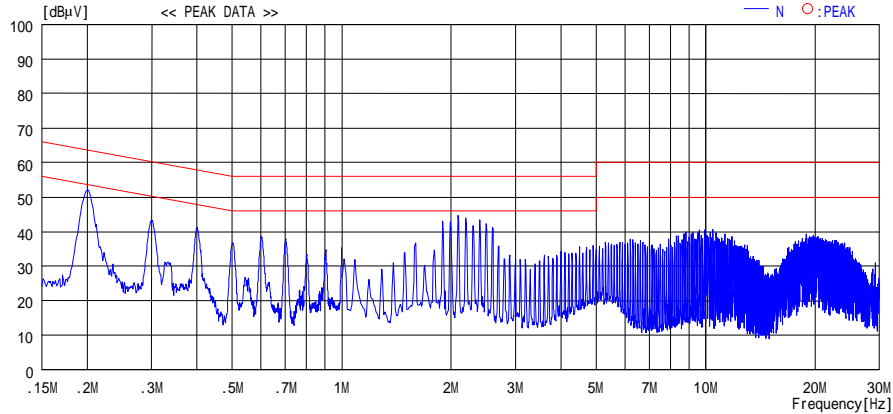


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
 Except for the above table : adequate margin data below the limits.

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Mode / Remarks : Transmitting 11a/5320MHz/36Mbps

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

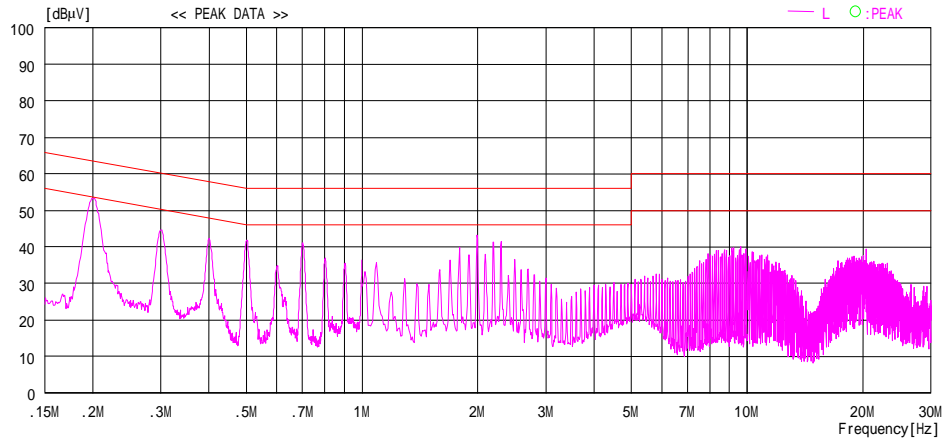
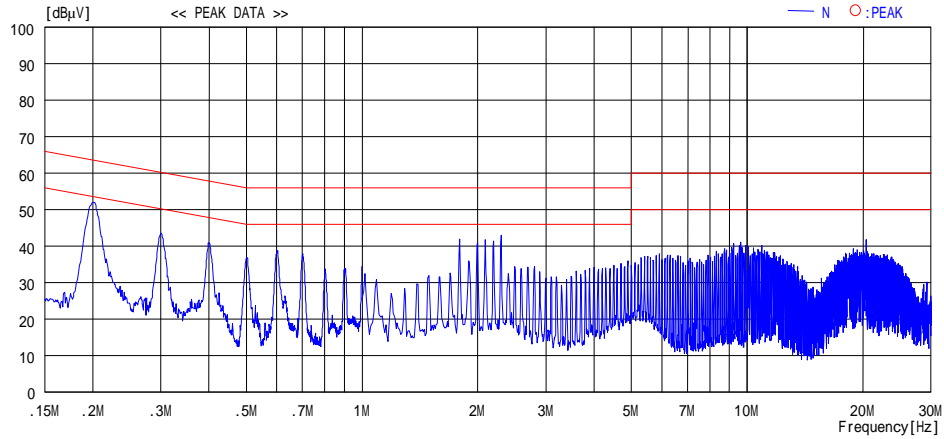


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F.(L1SN LOSS+CABLE LOSS)
 Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

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

Applicant : CONTEC Co., Ltd. Kind of EUT : Wireless LAN MiniPCI Card User Unit Model No. : FX-DS540-MPCI4W Serial No. : 04MC2D1	Report No. : 25CE0272-HO Power : DC3.3V AC Adapter AC120V / 60Hz Temp /Humid% : 23 deg.C / 42 % Operator : Keiichi Aoki
--	--

Mode / Remarks : Transmitting 11a/5745MHz/36Mbps

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

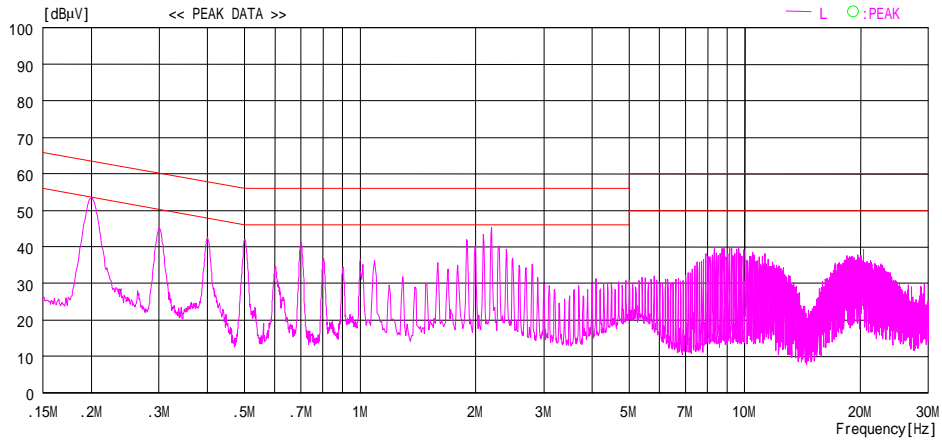
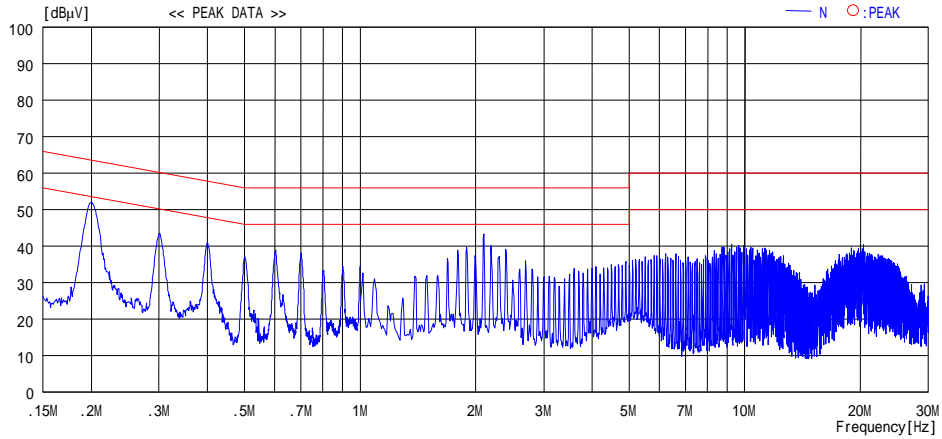


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F(L1SN LOSS+CABLE LOSS)
 Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

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

Applicant : CONTEC Co., Ltd.	Report No. : 25CE0272-HO
Kind of EUT : Wireless LAN MiniPCI Card User Unit	Power : DC3.3V AC Adapter AC120V / 60Hz
Model No. : FX-DS540-MPCI4W	Temp /Humi% : 23 deg.C / 42 %
Serial No. : 04MC2D1	Operator : Keiichi Aoki

Mode / Remarks : Transmitting 11a/5765MHz/36Mbps

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

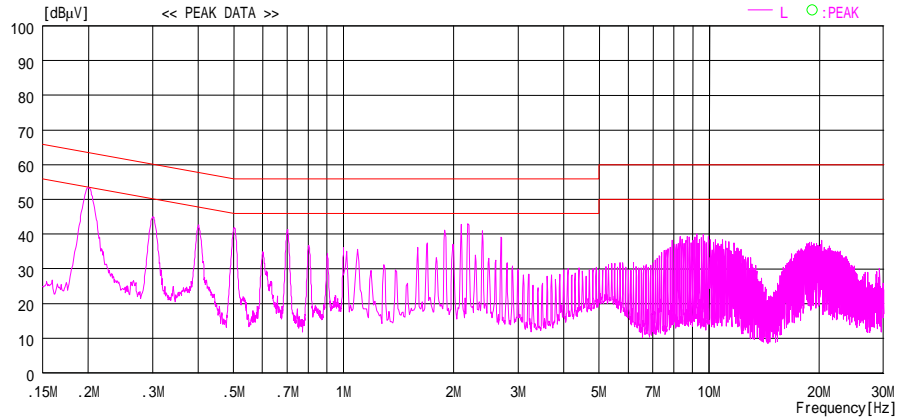
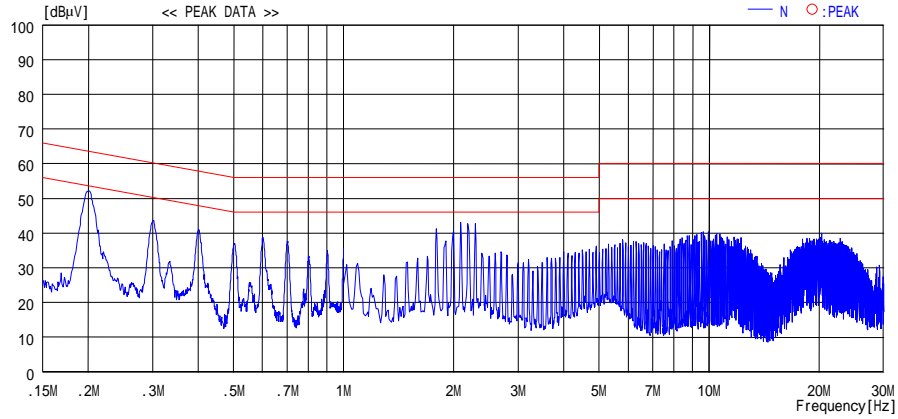


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F(L1SN LOSS+CABLE LOSS)
 Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

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

Applicant : CONTEC Co., Ltd. Kind of EUT : Wireless LAN MiniPCI Card User Unit Model No. : FX-DS540-MPCI4W Serial No. : 04MC2D1	Report No. : 25CE0272-HO Power : DC3.3V AC Adapter AC120V / 60Hz Temp /Humi% : 23 deg.C / 42 % Operator : Keiichi Aoki
--	---

Mode / Remarks : Transmitting 11a/5805MHz/36Mbps

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

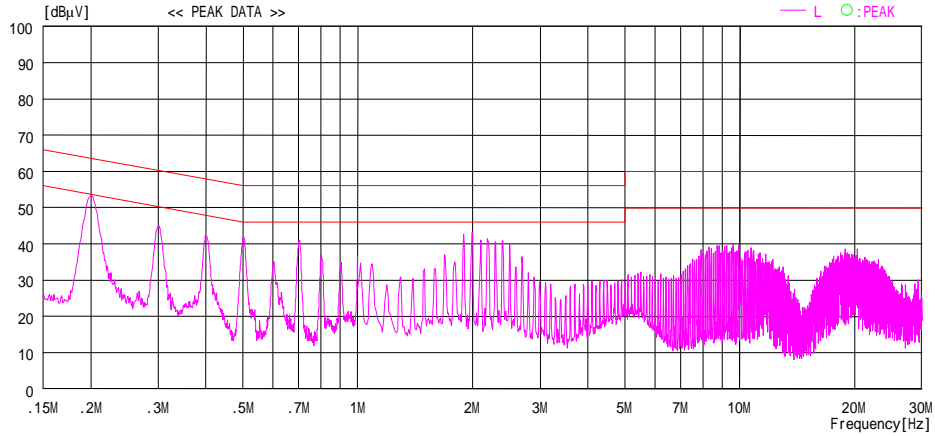
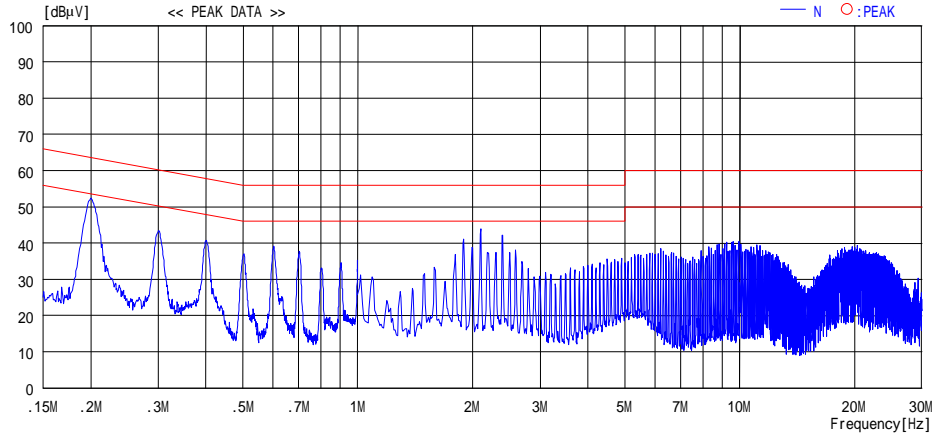


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
 Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

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

Applicant : CONTEC Co., Ltd.	Report No. : 25CE0272-HO
Kind of EUT : Wireless LAN MiniPCI Card User Unit	Power : DC3.3V AC Adapter AC120V / 60Hz
Model No. : FX-DSS40-MPCI4W	Temp /Humi% : 23 deg.C / 42 %
Serial No. : 04MC2D1	Operator : Keiichi Aoki

Mode / Remarks : Standby

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

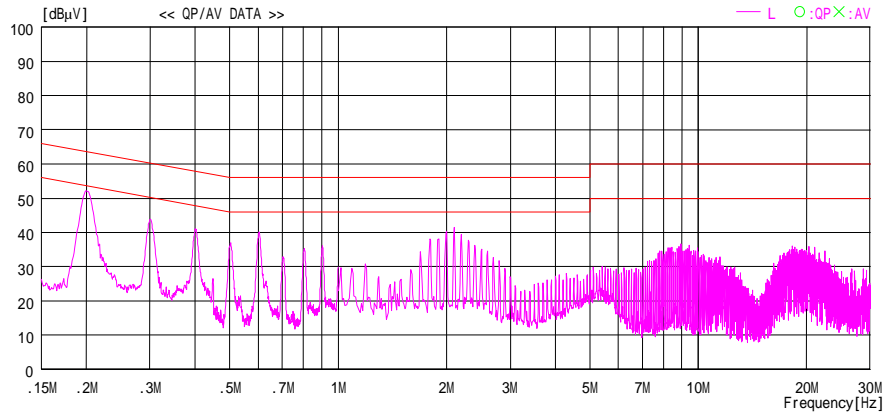
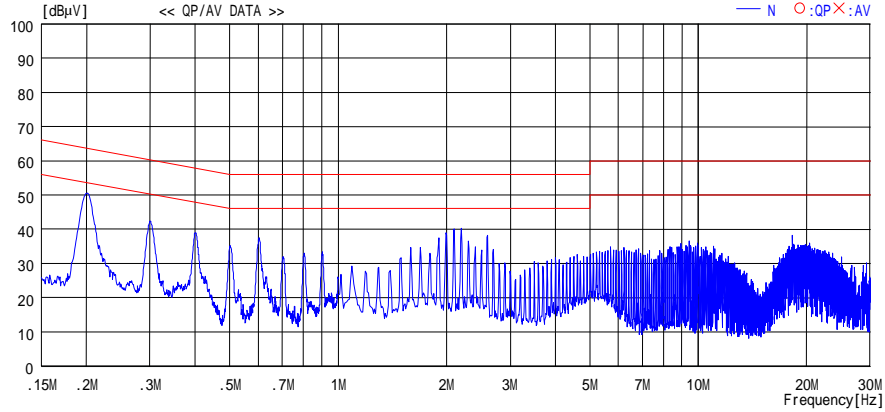


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F.(LISN LOSS+CABLE LOSS)
 Except for the above table : adequate margin data below the limits.

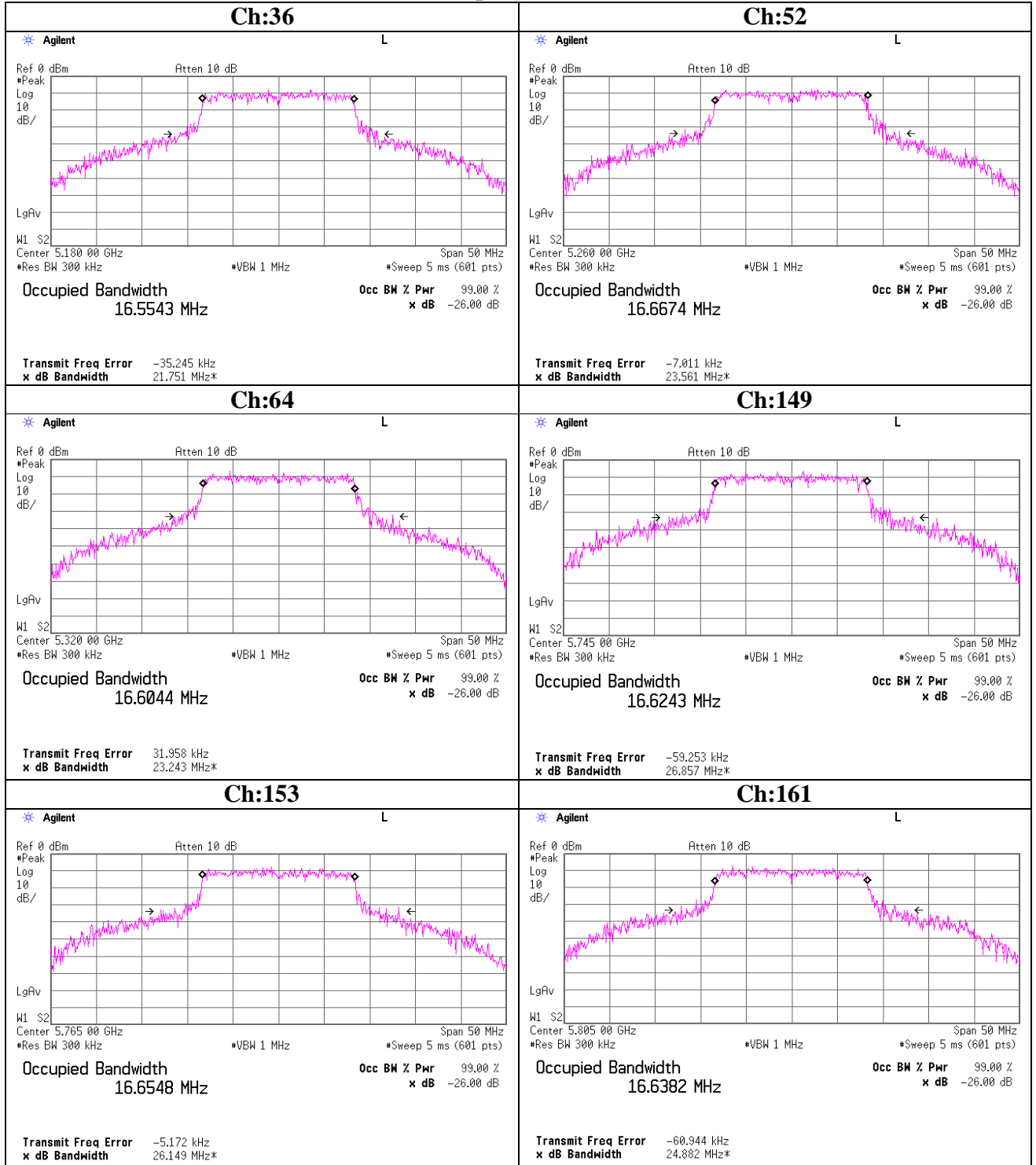
26dB Emission Bandwidth
36Mbps Antenna:A

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

Company	: CONTEC CO.,LTD.	REPORT NO	: 25CE0272-HO
Equipment	: Wireless LAN Access Point	REGULATION	: FCC 15.407(a)(1)(2)(3)
Model	: FX-DS540-MPC14W	TEST DISTANCE	: -
Sample No.	: 04MC2D1	DATE	: 11/04/2004
Power	: DC3.3V	TEMPERATURE	: 25deg.C
Mode	: Tx IEEE 802.11a 36Mbps	HUMIDITY	: 41%
	: Continuous Transmitting	ENGINEER	: Hiroka Umeyama

Ch	Freq. [MHz]	26dB Bandwidth [MHz]	Limit [MHz]
36	5180.0	21.751	-
52	5260.0	23.561	-
64	5320.0	23.243	-
149	5745.0	26.857	-
153	5765.0	26.149	-
161	5805.0	24.882	-

26dB Emission Bandwidth
36Mbps Antenna:A



UL Apex Co., Ltd.
Head Office EMC Lab.
 4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
 Telephone : +81 596 24 8116
 Facsimile : +81 596 24 8124

Peak Transmit Power

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

Company : CONTEC CO.,LTD.	REPORT NO : 25CE0272-HO
Equipment : Wireless LAN MiniPCI Card User Unit	REGULATION : FCC 15.407(a)(1)(2)(3)
Model : FX-DS540-MPCI4W	TEST DISTANCE : -
Sample No. : 04MCD21	DATE : 11/04/2004
Power : DC3.3V	TEMPERATURE : 25deg.C
Mode : Tx IEEE 802.11a	HUMIDITY : 41%
: Continuous Transmitting	ENGINEER : Hiroka Umeyama

ANT:A 54Mbps

Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
36	5180.0	-3.30	3.3	10.0	10.03	17.0	7.0
52	5260.0	-2.57	3.3	10.0	10.77	17.0	6.2
64	5320.0	-2.38	3.4	10.0	10.97	24.0	13.0
149	5745.0	-2.66	3.4	10.0	10.75	30.0	19.3
153	5765.0	-2.43	3.4	10.0	10.98	30.0	19.0
161	5805.0	-2.63	3.4	10.0	10.79	30.0	19.2

ANT:A 36Mbps

Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
36	5180.0	-1.58	3.3	10.0	11.75	17.0	5.3
52	5260.0	2.03	3.3	10.0	15.37	17.0	1.6
64	5320.0	2.12	3.4	10.0	15.47	24.0	8.5
149	5745.0	1.82	3.4	10.0	15.23	30.0	14.8
153	5765.0	1.93	3.4	10.0	15.34	30.0	14.7
161	5805.0	2.14	3.4	10.0	15.56	30.0	14.4

ANT:B 54Mbps

Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
36	5180.0	-3.17	3.3	10.0	10.16	17.0	6.8
52	5260.0	-2.68	3.3	10.0	10.66	17.0	6.3
64	5320.0	-2.83	3.4	10.0	10.52	24.0	13.5
149	5745.0	-2.53	3.4	10.0	10.88	30.0	19.1
153	5765.0	-2.54	3.4	10.0	10.87	30.0	19.1
161	5805.0	-2.34	3.4	10.0	11.08	30.0	18.9

ANT:B 36Mbps

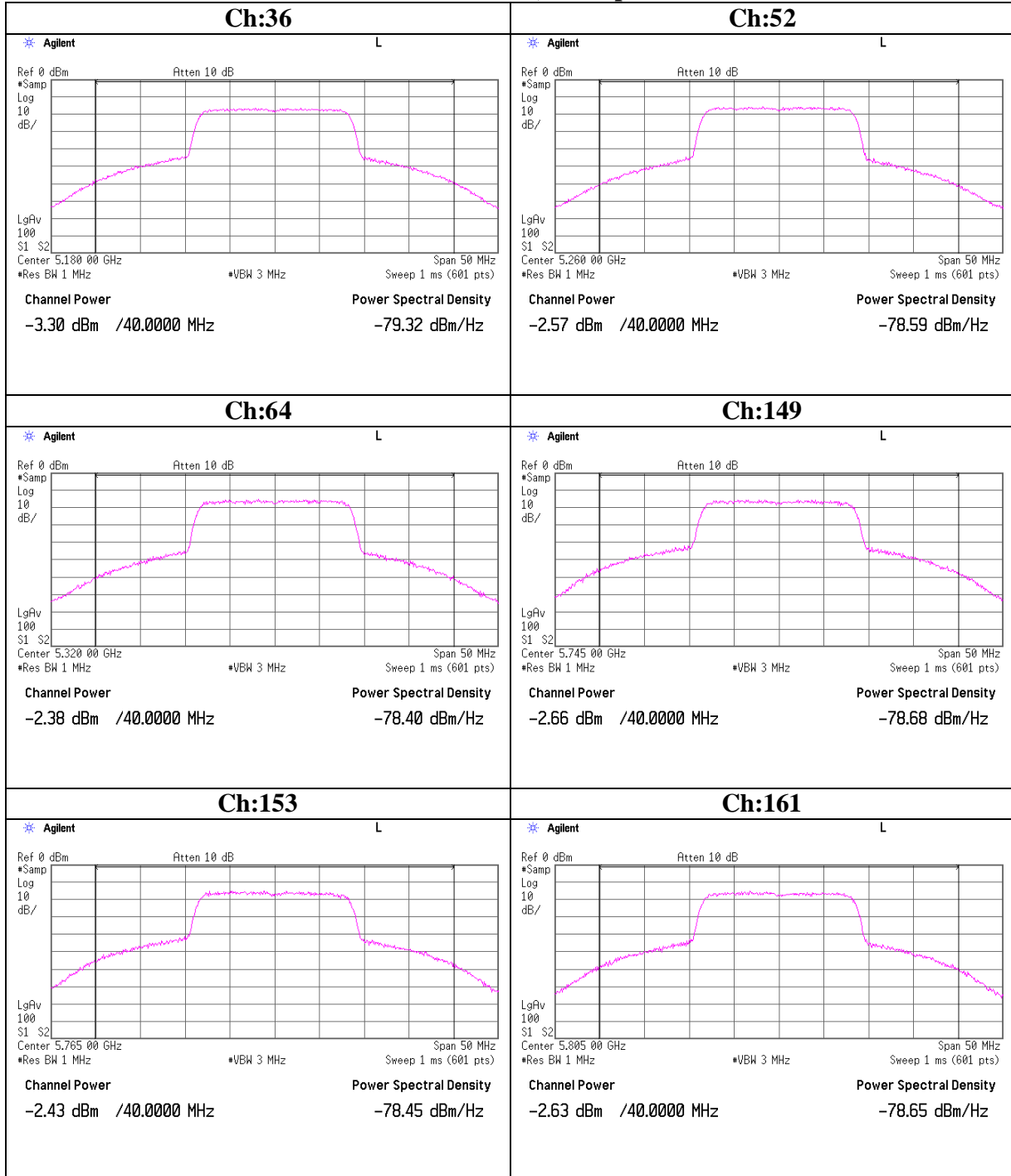
Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
36	5180.0	1.38	3.3	10.0	14.71	17.0	2.3
52	5260.0	1.86	3.3	10.0	15.20	17.0	1.8
64	5320.0	2.07	3.4	10.0	15.42	24.0	8.6
149	5745.0	1.91	3.4	10.0	15.32	30.0	14.7
153	5765.0	1.91	3.4	10.0	15.32	30.0	14.7
161	5805.0	1.96	3.4	10.0	15.38	30.0	14.6

Sample Calculation:

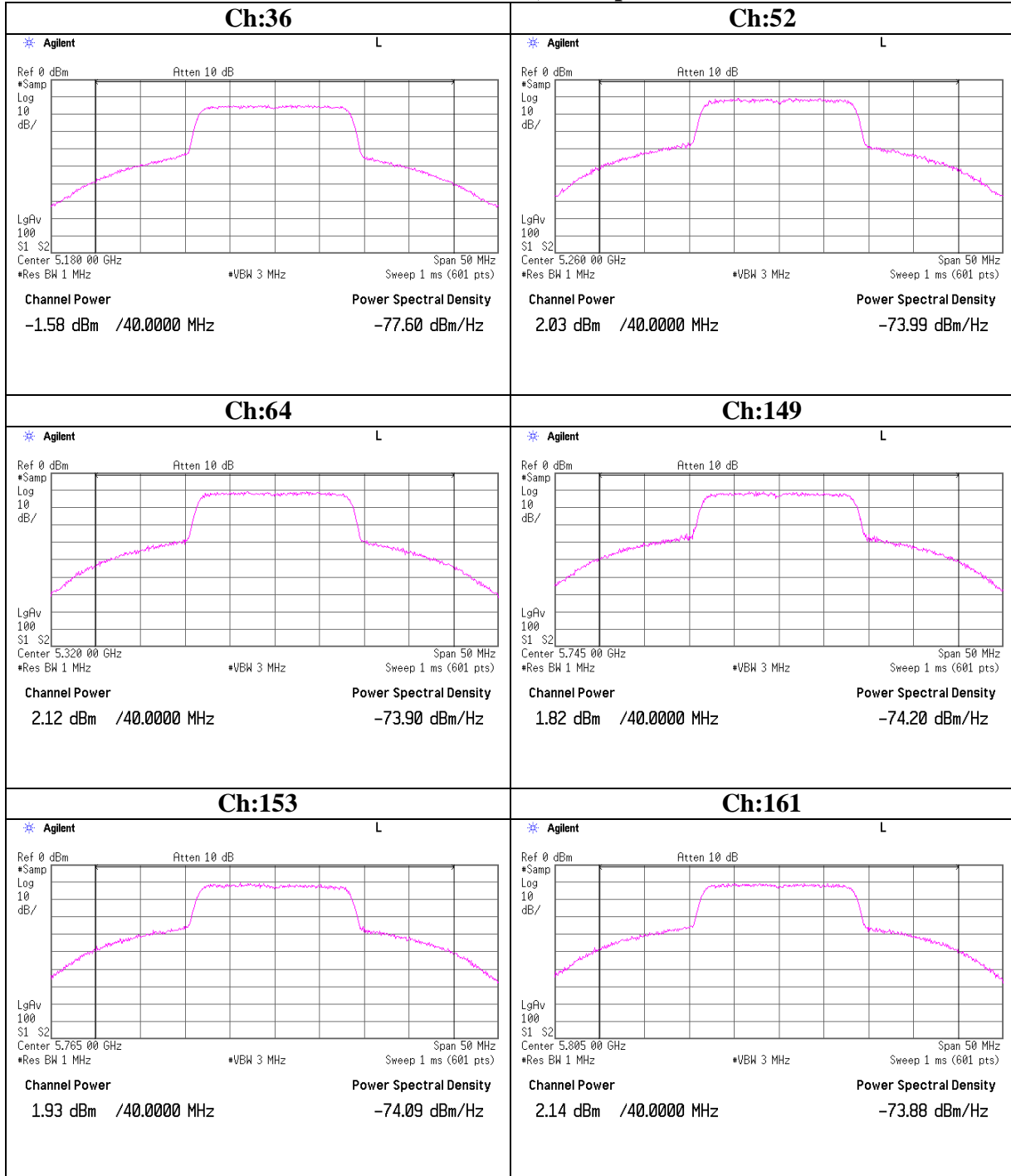
Result = Reading + Cable Loss + Attenuator

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

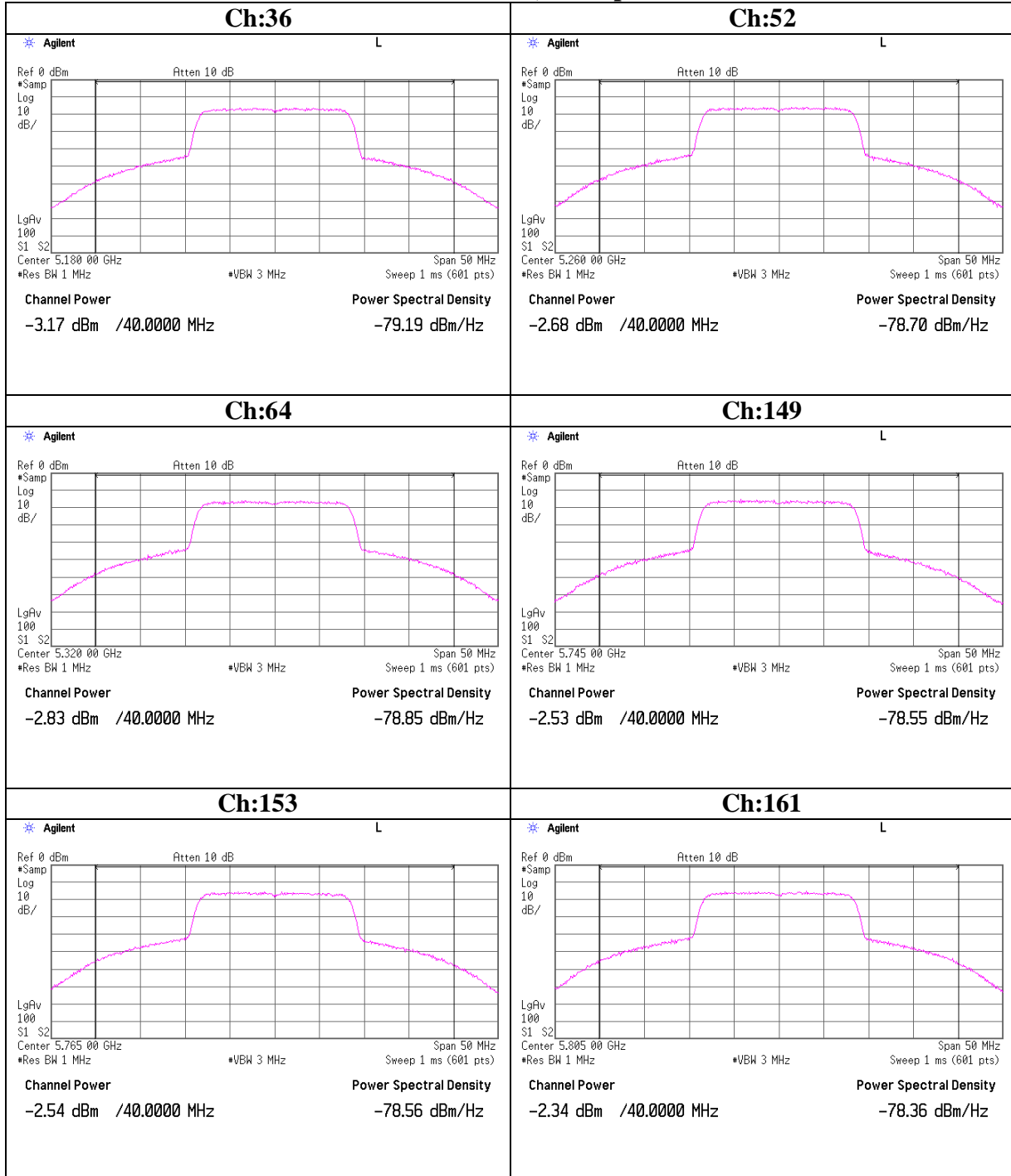
Peak Transmit Power
ANT:A, 54Mbps



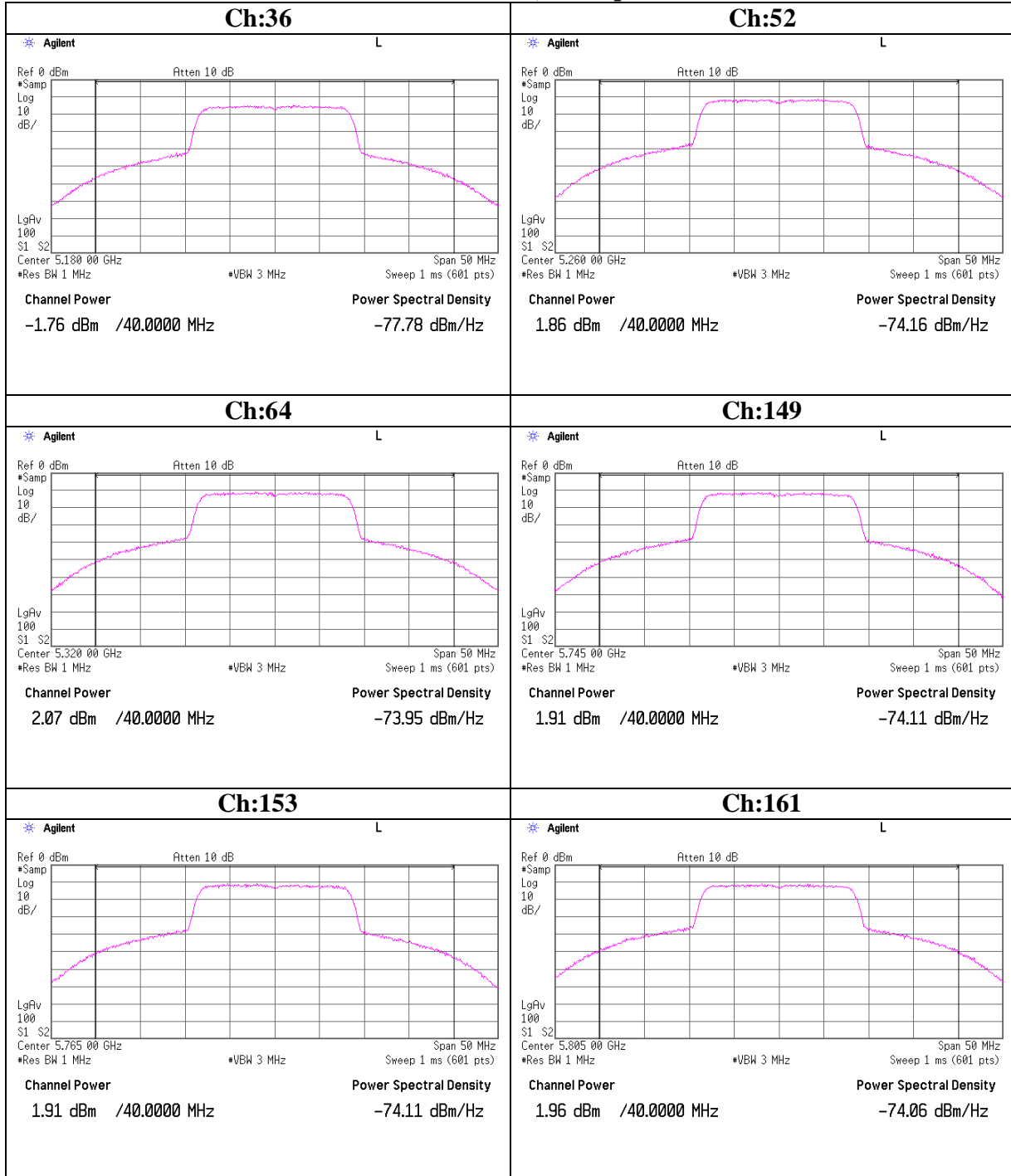
Peak Transmit Power
ANT:A, 36Mbps



Peak Transmit Power
ANT:B, 54Mbps



Peak Transmit Power
ANT:B, 36Mbps



Radiated Spurious Emission (below 1GHz)

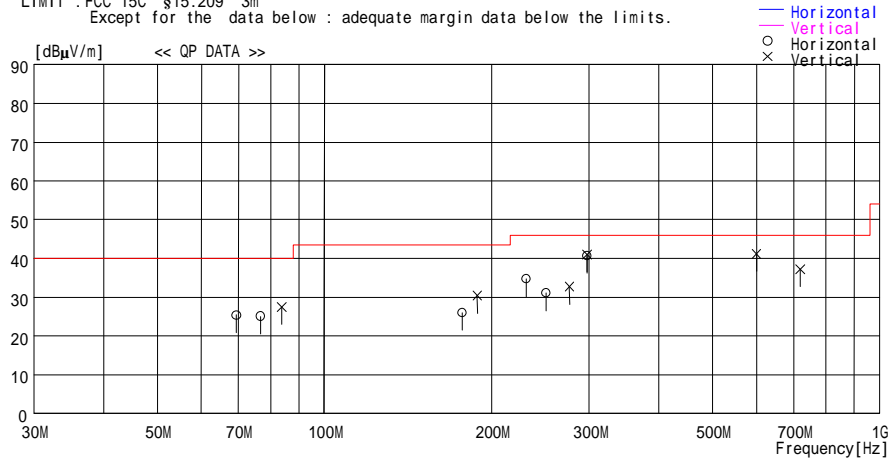
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/11/12 10:52:54

Applicant : CONTEC CO., LTD. Report No. : 25CE0272-HO
 Kind of EUT : Wireless LAN MiniPCI Card User Unit Power : DC3.3V
 Model No. : FX-DS540-MPCI4W Temp./ Humi. : 26 deg.C. / 60 %
 Serial No. : 04MC2D1 Operator : Hiroka Umeyama

Mode / Remarks: Transmitting 11a/5180MHz/36Mbps HOR:X-Axis,VER:Z-Axis(MAX)

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



No.	FREQ [MHz]	READING QP [dBUV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBUV/m]	LIMIT [dBUV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	69.382	39.2	7.0	6.9	27.7	25.4	40.0	14.6	100	120
2	76.679	39.1	6.8	6.9	27.7	25.1	40.0	14.9	208	109
3	176.858	28.7	16.8	7.7	27.2	26.0	43.5	17.5	181	241
4	231.000	36.6	17.1	8.0	27.0	34.7	46.0	11.3	133	297
5	250.746	32.7	17.1	8.1	26.8	31.1	46.0	14.9	131	116
6	296.999	39.0	20.2	8.3	26.8	40.7	46.0	5.3	100	213
----- Vertical -----										
7	83.762	40.8	7.4	7.0	27.7	27.5	40.0	12.5	119	125
8	188.516	32.9	16.9	7.8	27.2	30.4	43.5	13.1	100	97
9	276.303	32.4	18.8	8.3	26.8	32.7	46.0	13.3	100	255
10	297.000	39.4	20.2	8.3	26.8	41.1	46.0	4.9	100	207
11	599.993	40.1	19.7	9.7	28.3	41.2	46.0	4.8	149	180
12	719.992	34.3	20.8	10.3	28.2	37.2	46.0	8.8	100	142

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

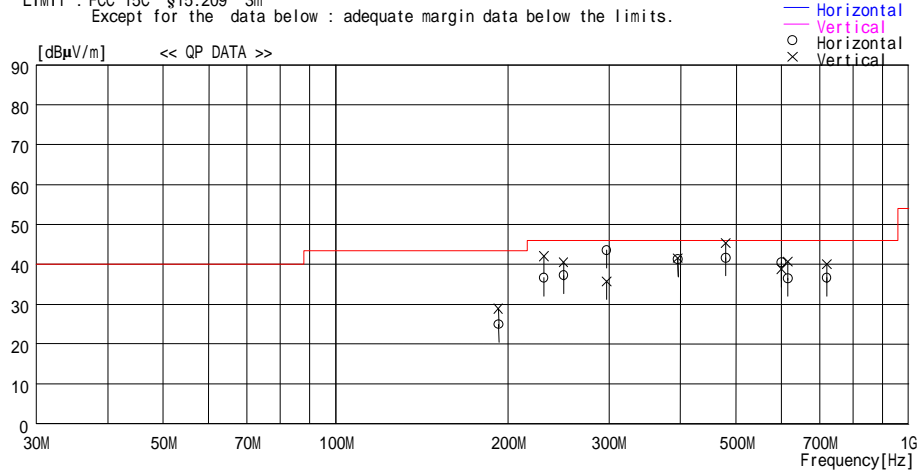
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
 Date : 2004/11/13 02:18:04

Applicant : CONTEC CO., LTD. Report No. : 25CE0272-HO
 Kind of EUT : Wireless LAN MiniPCI Card User Unit Power : DC3.3V
 Model No. : FX-DS540-MPCI4W Temp./ Humi. : 26 deg.C. / 47 %
 Serial No. : 04MC2D1 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11a/5180MHz/54Mbps/TX100/PN9/Ant-A/ HOR:X-Axis(MAX), VER:Z-Axis(MAX)

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



Frequency	Reading	DET	Antenna		Level	Angle	Height	Polar.	Limit	Margin
			Factor	Loss& Gain						
[MHz]	[dBµV]		[dB/m]	[dB]	[dBµV/m]	[Deg]	[cm]		[dBµV/m]	[dB]
192.295	27.3	QP	17.0	-19.4	24.9	155	330	Hori.	43.5	18.6
192.295	31.3	QP	17.0	-19.4	28.9	88	100	Vert.	43.5	14.6
231.001	38.5	QP	17.1	-19.0	36.6	252	149	Hori.	46.0	9.4
231.004	43.9	QP	17.1	-19.0	42.0	264	100	Vert.	46.0	4.0
250.014	38.8	QP	17.1	-18.7	37.2	112	154	Hori.	46.0	8.8
250.014	42.1	QP	17.1	-18.7	40.5	232	100	Vert.	46.0	5.5
297.006	34.0	QP	20.2	-18.5	35.7	184	100	Vert.	46.0	10.3
297.006	41.9	QP	20.2	-18.5	43.6	181	158	Hori.	46.0	2.4
396.003	41.4	QP	18.5	-18.6	41.3	248	100	Hori.	46.0	4.7
396.003	41.6	QP	18.5	-18.6	41.5	234	100	Vert.	46.0	4.5
479.998	41.6	QP	18.8	-18.8	41.6	257	100	Hori.	46.0	4.4
480.001	45.3	QP	18.8	-18.8	45.3	77	100	Vert.	46.0	0.7
599.997	39.2	QP	19.7	-18.5	40.4	133	147	Hori.	46.0	5.6
600.001	37.6	QP	19.7	-18.5	38.8	49	100	Vert.	46.0	7.2
615.997	35.0	QP	19.8	-18.3	36.5	259	133	Hori.	46.0	9.5
615.997	39.1	QP	19.8	-18.3	40.6	285	100	Vert.	46.0	5.4
719.997	37.1	QP	20.8	-17.9	40.0	176	100	Vert.	46.0	6.0
719.999	33.7	QP	20.8	-17.9	36.6	113	117	Hori.	46.0	9.4

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

DATA OF RADIATED EMISSION TEST

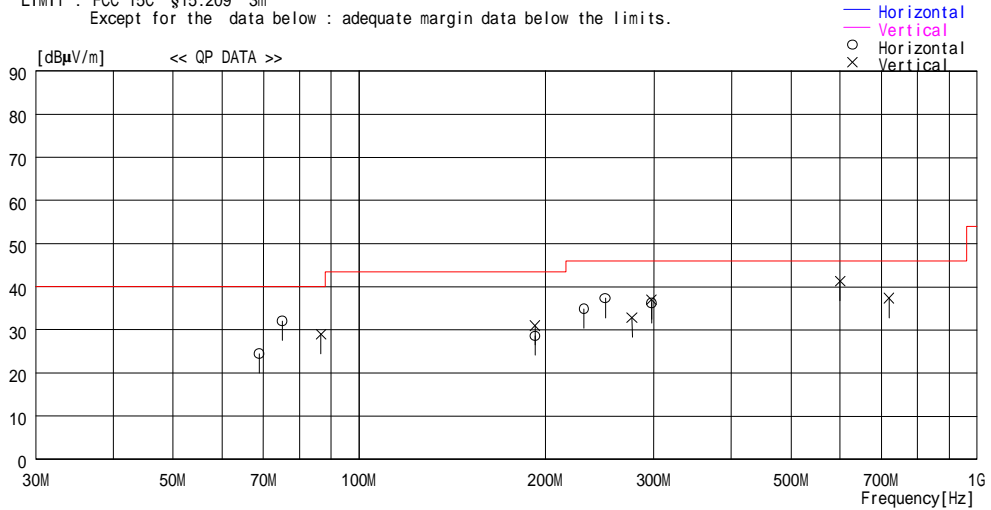
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
 Date : 2004/11/12 16:22:36

Applicant : CONTEC CO., LTD. Report No. : 25CE0272-HO
 Kind of EUT : Wireless LAN MiniPCI Card User Unit Power : DC3.3V
 Model No. : FX-DS540-MPCI4W Temp./ Humi. : 26 deg.C. / 60 %
 Serial No. : 04MC2D1 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11a/5260MHz/36Mbps HOR:X-Axis,VER:Z-Axis(MAX)

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	68.868	38.3	7.0	6.9	27.7	24.5	40.0	15.5	100	121
2	75.065	46.0	6.8	6.9	27.7	32.0	40.0	8.0	211	109
3	192.298	31.0	17.0	7.8	27.2	28.6	43.5	14.9	184	244
4	231.000	36.8	17.1	8.0	27.0	34.9	46.0	11.1	136	294
5	250.011	38.9	17.1	8.1	26.8	37.3	46.0	8.7	130	114
6	297.000	34.5	20.2	8.3	26.8	36.2	46.0	9.8	100	212
----- Vertical -----										
7	86.668	41.7	7.9	7.1	27.7	29.0	40.0	11.0	119	123
8	192.311	33.4	17.0	7.8	27.2	31.0	43.5	12.5	100	360
9	276.343	32.5	18.8	8.3	26.8	32.8	46.0	13.2	100	256
10	297.000	35.3	20.2	8.3	26.8	37.0	46.0	9.0	100	208
11	599.993	40.2	19.7	9.7	28.3	41.3	46.0	4.7	146	183
12	719.991	34.4	20.8	10.3	28.2	37.3	46.0	8.7	100	144

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

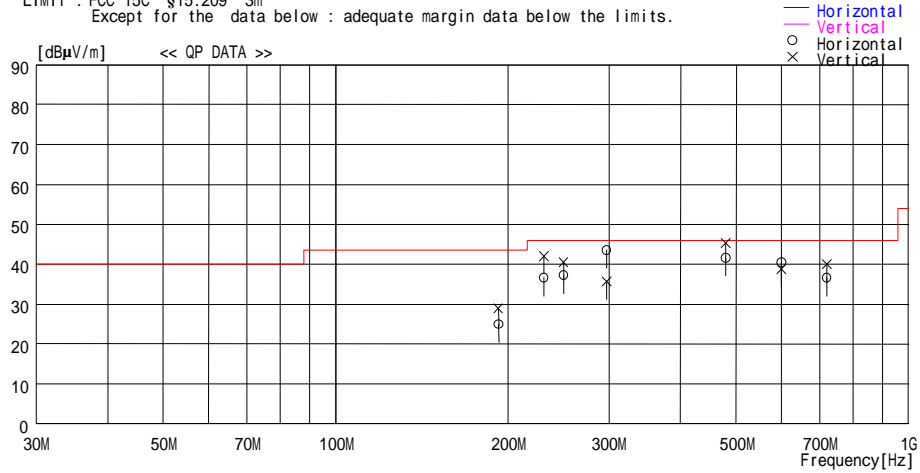
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/11/13 02:06:32

Applicant : CONTEC CO., LTD. Report No. : 25CE0272-HO
 Kind of EUT : Wireless LAN MiniPCI Card User Unit Power : DC3.3V
 Model No. : FX-DS540-MPCI4W Temp./ Humi. : 26 deg.C. / 47 %
 Serial No. : 04MC2D1 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11a/5260MHz/54Mbps/TX100/PN9/Ant-A/ HOR:X-Axis(MAX),VER:Z-Axis(MAX)

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



Frequency [MHz]	Reading [dBµV]	DET	Antenna	Loss&	Level [dBµV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBµV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]						
192.295	27.3	QP	17.0	-19.4	24.9	155	330	Hori.	43.5	18.6
192.295	31.3	QP	17.0	-19.4	28.9	88	100	Vert.	43.5	14.6
231.001	38.5	QP	17.1	-19.0	36.6	252	149	Hori.	46.0	9.4
231.001	43.9	QP	17.1	-19.0	42.0	264	100	Vert.	46.0	4.0
250.014	38.8	QP	17.1	-18.7	37.2	112	154	Hori.	46.0	8.8
250.014	42.1	QP	17.1	-18.7	40.5	232	100	Vert.	46.0	5.5
297.006	41.9	QP	20.2	-18.5	43.6	181	158	Hori.	46.0	2.4
297.006	34.0	QP	20.2	-18.5	35.7	184	100	Vert.	46.0	10.3
479.999	41.6	QP	18.8	-18.8	41.6	257	100	Hori.	46.0	4.4
480.000	45.3	QP	18.8	-18.8	45.3	77	100	Vert.	46.0	0.7
600.000	39.2	QP	19.7	-18.5	40.4	133	147	Hori.	46.0	5.6
600.000	37.6	QP	19.7	-18.5	38.8	49	100	Vert.	46.0	7.2
720.000	33.7	QP	20.8	-17.9	36.6	113	117	Hori.	46.0	9.4
720.000	37.1	QP	20.8	-17.9	40.0	176	100	Vert.	46.0	6.0

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

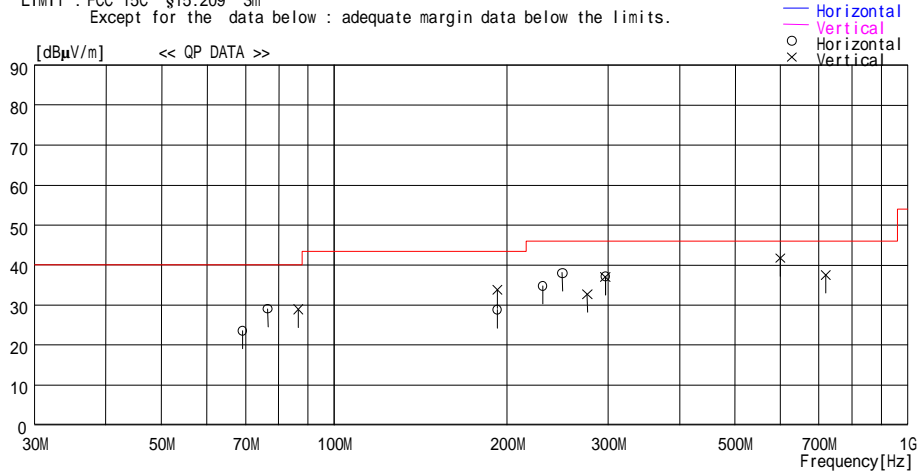
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/11/12 16:54:26

Applicant : CONTEC CO., LTD. Report No. : 25CE0272-HO
 Kind of EUT : Wireless LAN MiniPCI Card User Unit Power : DC3.3V
 Model No. : FX-DS540-MPCI4W Temp./ Humi. : 26 deg.C. / 60 %
 Serial No. : 04MC2D1 Operator : Hiroka Umeyama

Model / Remarks: Transmitting 11a/5320MHz/36Mbps HOR:X-Axis,VER:Z-Axis(MAX)

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	69.169	37.4	7.0	6.9	27.7	23.6	40.0	16.4	100	122
2	76.532	43.1	6.8	6.9	27.7	29.1	40.0	10.9	205	108
3	192.287	31.2	17.0	7.8	27.2	28.8	43.5	14.7	183	244
4	231.000	36.7	17.1	8.0	27.0	34.8	46.0	11.2	133	299
5	250.012	39.6	17.1	8.1	26.8	38.0	46.0	8.0	132	122
6	297.000	35.4	20.2	8.3	26.8	37.1	46.0	8.9	100	216
----- Vertical -----										
7	86.668	41.6	7.9	7.1	27.7	28.9	40.0	11.1	122	124
8	192.288	36.2	17.0	7.8	27.2	33.8	43.5	9.7	100	93
9	276.303	32.4	18.8	8.3	26.8	32.7	46.0	13.3	100	254
10	297.000	35.3	20.2	8.3	26.8	37.0	46.0	9.0	153	210
11	599.992	40.6	19.7	9.7	28.3	41.7	46.0	4.3	147	179
12	719.992	34.7	20.8	10.3	28.2	37.6	46.0	8.4	100	143

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

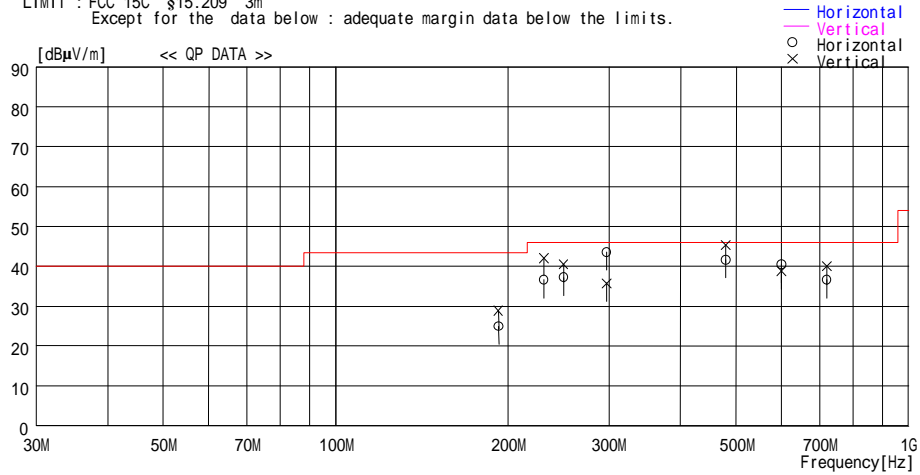
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
 Date : 2004/11/13 01:55:14

Applicant : CONTEC CO., LTD. Report No. : 25CE0272-HO
 Kind of EUT : Wireless LAN MiniPCI Card User Unit Power : DC3.3V
 Model No. : FX-DS540-MPCI4W Temp./ Humi. : 26 deg.C. / 47 %
 Serial No. : 04MC2D1 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11a/5320MHz/54Mbps/TX100/PN9/Ant-A/ HOR:X-Axis(MAX),VER:Z-Axis(MAX)

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



Frequency [MHz]	Reading [dBµV]	DET	Antenna		Level [dBµV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBµV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
192.290	27.3	QP	17.0	-19.4	24.9	155	330	Hori.	43.5	18.6
192.290	31.3	QP	17.0	-19.4	28.9	88	100	Vert.	43.5	14.6
231.001	38.5	QP	17.1	-19.0	36.6	252	149	Hori.	46.0	9.4
231.001	43.9	QP	17.1	-19.0	42.0	264	100	Vert.	46.0	4.0
250.014	38.8	QP	17.1	-18.7	37.2	112	154	Hori.	46.0	8.8
250.014	42.1	QP	17.1	-18.7	40.5	232	100	Vert.	46.0	5.5
297.005	41.9	QP	20.2	-18.5	43.6	181	158	Hori.	46.0	2.4
297.007	34.0	QP	20.2	-18.5	35.7	184	100	Vert.	46.0	10.3
479.999	41.6	QP	18.8	-18.8	41.6	257	100	Hori.	46.0	4.4
480.000	45.3	QP	18.8	-18.8	45.3	77	100	Vert.	46.0	0.7
600.000	39.2	QP	19.7	-18.5	40.4	133	147	Hori.	46.0	5.6
600.000	37.6	QP	19.7	-18.5	38.8	49	100	Vert.	46.0	7.2
719.998	37.1	QP	20.8	-17.9	40.0	176	100	Vert.	46.0	6.0
719.999	33.7	QP	20.8	-17.9	36.6	113	117	Hori.	46.0	9.4

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

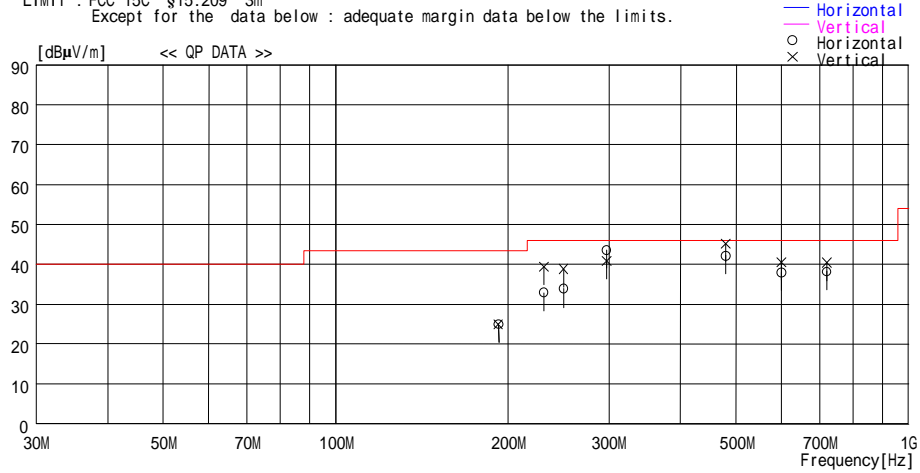
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
 Date : 2004/11/12 21:26:34

Applicant : CONTEC CO., LTD. Report No. : 25CE0272-HO
 Kind of EUT : Wireless LAN MiniPCI Card User Unit Power : DC3.3V
 Model No. : FX-DS540-MPCI4W Temp./ Humi. : 26 deg.C. / 47 %
 Serial No. : 04MC2D1 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11a/5745MHz/36Mbps/TX100/PN9/Ant-A/ HOR:X-Axis(MAX),VER:Z-Axis(MAX)

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



Frequency [MHz]	Reading [dBµV]	DET	Antenna		Level [dBµV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBµV/m]	Margin [dB]
			Factor [dB/m]	Loss & Gain [dB]						
192.290	27.4	QP	17.0	-19.4	25.0	268	100	Vert.	43.5	18.5
192.294	27.3	QP	17.0	-19.4	24.9	164	334	Hori.	43.5	18.6
231.000	34.8	QP	17.1	-19.0	32.9	252	149	Hori.	46.0	13.1
231.006	41.2	QP	17.1	-18.9	39.4	282	100	Vert.	46.0	6.6
250.015	40.4	QP	17.1	-18.7	38.8	245	100	Vert.	46.0	7.2
250.015	35.4	QP	17.1	-18.7	33.8	112	154	Hori.	46.0	12.2
297.000	41.9	QP	20.2	-18.5	43.6	181	158	Hori.	46.0	2.4
297.001	39.1	QP	20.2	-18.5	40.8	194	100	Vert.	46.0	5.2
479.998	42.1	QP	18.8	-18.8	42.1	253	100	Hori.	46.0	3.9
480.000	45.2	QP	18.8	-18.8	45.2	77	100	Vert.	46.0	0.8
600.002	39.3	QP	19.7	-18.5	40.5	178	155	Vert.	46.0	5.5
600.003	36.7	QP	19.7	-18.5	37.9	349	100	Hori.	46.0	8.1
719.998	37.5	QP	20.8	-17.9	40.4	180	100	Vert.	46.0	5.6
720.000	35.3	QP	20.8	-17.9	38.2	140	100	Hori.	46.0	7.8

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

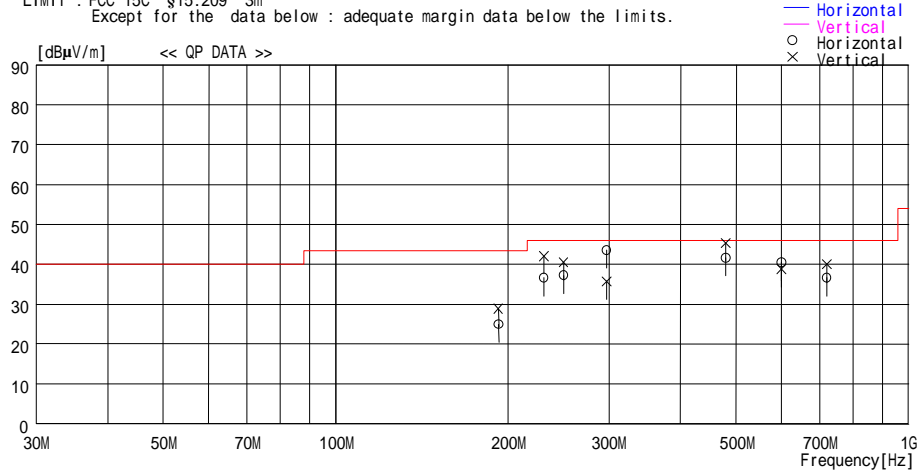
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
 Date : 2004/11/13 01:36:50

Applicant : CONTEC CO., LTD. Report No. : 25CE0272-HO
 Kind of EUT : Wireless LAN MiniPCI Card User Unit Power : DC3.3V
 Model No. : FX-DS540-MPCI4W Temp./ Humi. : 26 deg.C. / 47 %
 Serial No. : 04MC2D1 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11a/5745MHz/54Mbps/TX100/PN9/Ant-A/ HOR:X-Axis(MAX),VER:Z-Axis(MAX)

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



Frequency	Reading	DET	Antenna		Level	Angle	Height	Polar.	Limit	Margin
			Factor	Loss& Gain						
[MHz]	[dBµV]		[dB/m]	[dB]	[dBµV/m]	[Deg]	[cm]		[dBµV/m]	[dB]
192.295	27.3	QP	17.0	-19.4	24.9	155	330	Hori.	43.5	18.6
192.295	31.3	QP	17.0	-19.4	28.9	88	100	Vert.	43.5	14.6
231.001	38.5	QP	17.1	-19.0	36.6	252	149	Hori.	46.0	9.4
231.004	43.9	QP	17.1	-19.0	42.0	264	100	Vert.	46.0	4.0
250.015	38.8	QP	17.1	-18.7	37.2	112	154	Hori.	46.0	8.8
250.015	42.1	QP	17.1	-18.7	40.5	232	100	Vert.	46.0	5.5
297.005	41.9	QP	20.2	-18.5	43.6	181	158	Hori.	46.0	2.4
297.007	34.0	QP	20.2	-18.5	35.7	184	100	Vert.	46.0	10.3
479.999	41.6	QP	18.8	-18.8	41.6	257	100	Hori.	46.0	4.4
480.000	45.3	QP	18.8	-18.8	45.3	77	100	Vert.	46.0	0.7
600.000	39.2	QP	19.7	-18.5	40.4	133	147	Hori.	46.0	5.6
600.000	37.6	QP	19.7	-18.5	38.8	49	100	Vert.	46.0	7.2
719.999	37.1	QP	20.8	-17.9	40.0	176	100	Vert.	46.0	6.0
719.999	33.7	QP	20.8	-17.9	36.6	113	117	Hori.	46.0	9.4

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

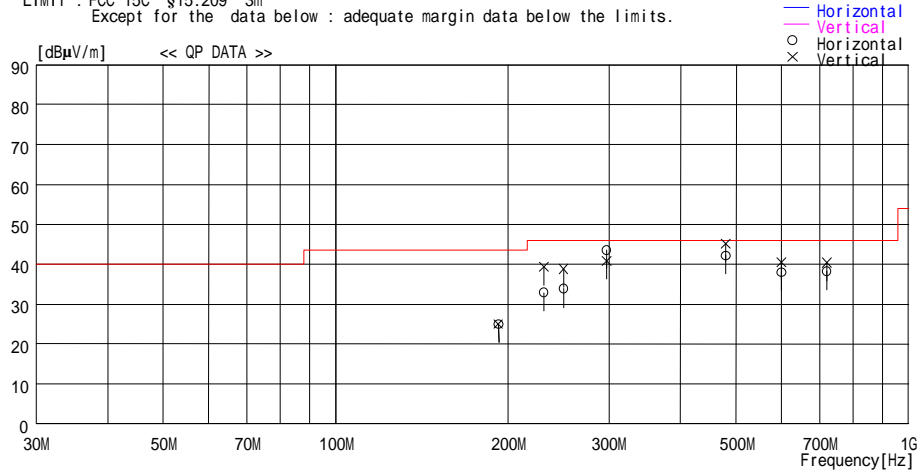
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
 Date : 2004/11/12 23:56:47

Applicant : CONTEC CO., LTD. Report No. : 25CE0272-HO
 Kind of EUT : Wireless LAN MiniPCI Card User Unit Power : DC3.3V
 Model No. : FX-DS540-MPCI4W Temp./ Humi. : 26 deg.C. / 47 %
 Serial No. : 04MC2D1 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11a/5765MHz/36Mbps/TX100/PN9/Ant-A/ HOR:X-Axis(MAX),VER:Z-Axis(MAX)

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



Frequency [MHz]	Reading [dBµV]	DET	Antenna	Loss&	Level [dBµV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBµV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]						
192.290	27.4	QP	17.0	-19.4	25.0	268	100	Vert.	43.5	18.5
192.294	27.3	QP	17.0	-19.4	24.9	164	334	Hori.	43.5	18.6
231.000	34.8	QP	17.1	-19.0	32.9	252	150	Hori.	46.0	13.1
231.000	41.2	QP	17.1	-19.0	39.3	282	100	Vert.	46.0	6.7
250.015	35.4	QP	17.1	-18.7	33.8	112	154	Hori.	46.0	12.2
250.015	40.4	QP	17.1	-18.7	38.8	246	100	Vert.	46.0	7.2
297.000	41.9	QP	20.2	-18.5	43.6	181	158	Hori.	46.0	2.4
297.000	39.1	QP	20.2	-18.5	40.8	194	100	Vert.	46.0	5.2
479.999	42.1	QP	18.8	-18.8	42.1	253	100	Hori.	46.0	3.9
480.000	45.2	QP	18.8	-18.8	45.2	77	100	Vert.	46.0	0.8
600.002	39.3	QP	19.7	-18.5	40.5	178	155	Vert.	46.0	5.5
600.003	36.7	QP	19.7	-18.5	37.9	349	100	Hori.	46.0	8.1
719.999	37.5	QP	20.8	-17.9	40.4	180	100	Vert.	46.0	5.6
720.000	35.3	QP	20.8	-17.9	38.2	140	100	Hori.	46.0	7.8

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

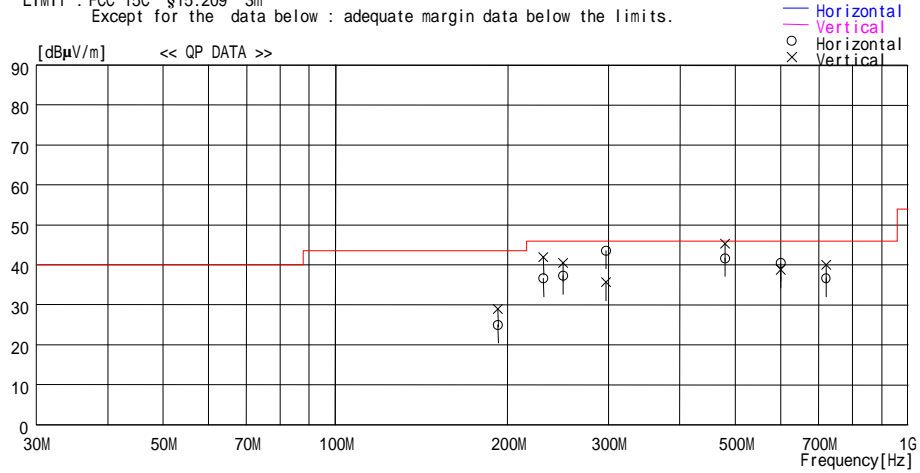
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/11/13 01:25:28

Applicant : CONTEC CO., LTD. Report No. : 25CE0272-HO
 Kind of EUT : Wireless LAN MiniPCI Card User Unit Power : DC3.3V
 Model No. : FX-DS540-MPCI4W Temp./ Humi. : 26 deg.C. / 47 %
 Serial No. : 04MC2D1 Operator : Hiroka umeyama

Mode / Remarks : Transmitting 11a/5765MHz/54Mbps/TX100/PN9/Ant-A/ HOR:X-Axis(MAX),VER:Z-Axis(MAX)

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



Frequency [MHz]	Reading [dBµV]	DET	Antenna		Level [dBµV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBµV/m]	Margin [dB]
			Factor [dB/m]	Loss & Gain [dB]						
192.290	27.3	QP	17.0	-19.4	24.9	155	330	Hori.	43.5	18.6
192.290	31.3	QP	17.0	-19.4	28.9	88	100	Vert.	43.5	14.6
231.001	38.5	QP	17.1	-19.0	36.6	252	149	Hori.	46.0	9.4
231.001	43.9	QP	17.1	-19.0	42.0	264	100	Vert.	46.0	4.0
250.014	38.8	QP	17.1	-18.7	37.2	112	154	Hori.	46.0	8.8
250.014	42.1	QP	17.1	-18.7	40.5	232	100	Vert.	46.0	5.5
297.005	41.9	QP	20.2	-18.5	43.6	181	158	Hori.	46.0	2.4
297.005	34.0	QP	20.2	-18.5	35.7	184	100	Vert.	46.0	10.3
479.999	41.6	QP	18.8	-18.8	41.6	257	100	Hori.	46.0	4.4
480.000	45.3	QP	18.8	-18.8	45.3	77	100	Vert.	46.0	0.7
600.000	39.2	QP	19.7	-18.5	40.4	133	147	Hori.	46.0	5.6
600.000	37.6	QP	19.7	-18.5	38.8	49	100	Vert.	46.0	7.2
719.999	33.7	QP	20.8	-17.9	36.6	176	100	Hori.	46.0	9.4
719.999	37.1	QP	20.8	-17.9	40.0	113	117	Vert.	46.0	6.0

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

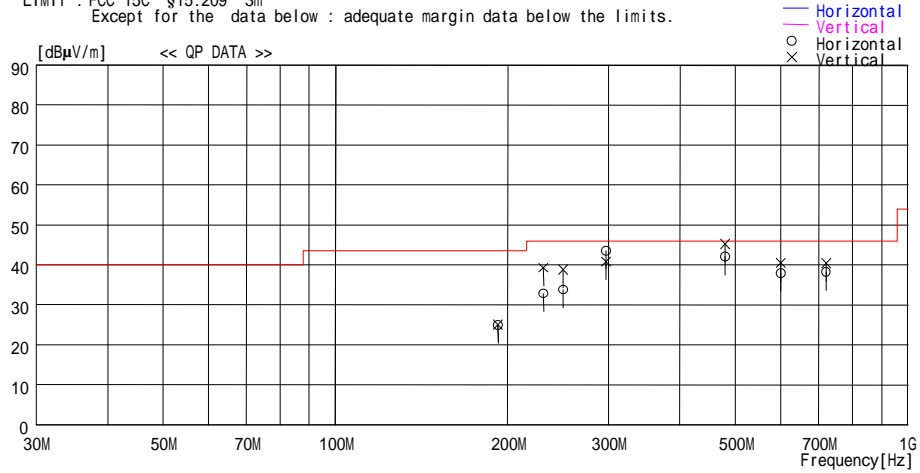
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
 Date : 2004/11/13 00:15:39

Applicant : CONTEC CO., LTD. Report No. : 25CE0272-HO
 Kind of EUT : Wireless LAN MiniPCI Card User Unit Power : DC3.3V
 Model No. : FX-DS540-MPCI4W Temp./ Humi. : 26 deg.C. / 47 %
 Serial No. : 04MC2D1 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11a/5805MHz/36Mbps/TX100/PN9/Ant-A/ HOR:X-Axis(MAX),VER:Z-Axis(MAX)

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



Frequency [MHz]	Reading [dBμV]	DET	Antenna		Level [dBμV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBμV/m]	Margin [dB]
			Factor [dB/m]	Loss & Gain [dB]						
192.290	27.3	QP	17.0	-19.4	24.9	164	334	Hori.	43.5	18.6
192.290	27.4	QP	17.0	-19.4	25.0	268	100	Vert.	43.5	18.5
231.000	34.8	QP	17.1	-19.0	32.9	252	149	Hori.	46.0	13.1
231.000	41.2	QP	17.1	-19.0	39.3	282	100	Vert.	46.0	6.7
250.015	35.4	QP	17.1	-18.7	33.8	112	154	Hori.	46.0	12.2
250.015	40.4	QP	17.1	-18.7	38.8	245	100	Vert.	46.0	7.2
297.000	41.9	QP	20.2	-18.5	43.6	181	158	Hori.	46.0	2.4
297.000	39.1	QP	20.2	-18.5	40.8	194	100	Vert.	46.0	5.2
479.999	42.1	QP	18.8	-18.8	42.1	253	100	Hori.	46.0	3.9
480.000	45.2	QP	18.8	-18.8	45.2	77	100	Vert.	46.0	0.8
600.003	36.7	QP	19.7	-18.5	37.9	349	100	Hori.	46.0	8.1
600.005	39.3	QP	19.7	-18.5	40.5	178	155	Vert.	46.0	5.5
719.999	37.5	QP	20.8	-17.9	40.4	180	100	Vert.	46.0	5.6
720.000	35.3	QP	20.8	-17.9	38.2	140	100	Hori.	46.0	7.8

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

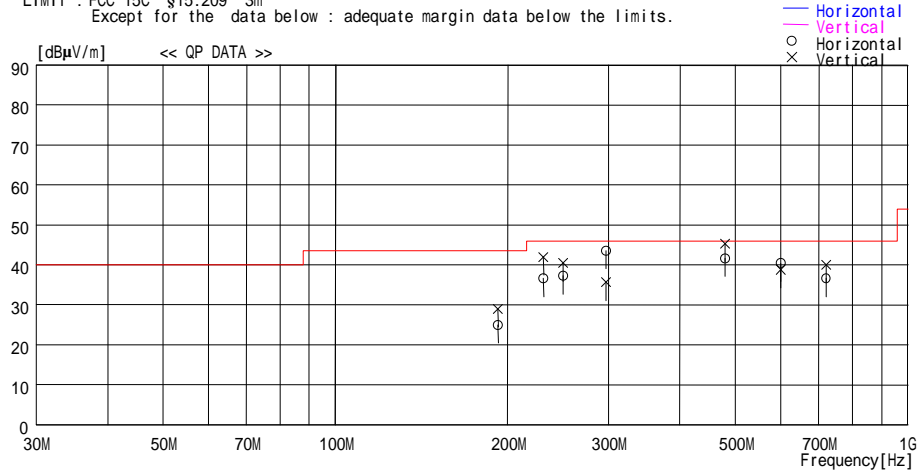
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
 Date : 2004/11/13 01:13:20

Applicant : CONTEC CO., LTD. Report No. : 25CE0272-HO
 Kind of EUT : Wireless LAN MiniPCI Card User Unit Power : DC3.3V
 Model No. : FX-DS540-MPCI4W Temp./ Humi. : 26 deg.C. / 47 %
 Serial No. : 04MC2D1 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11a/5805MHz/54Mbps/TX100/PN9/Ant-A/ HOR:X-Axis(MAX),VER:Z-Axis(MAX)

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



Frequency [MHz]	Reading [dBµV]	DET	Antenna		Level [dBµV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBµV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]						
192.295	27.3	QP	17.0	-19.4	24.9	155	330	Hori.	43.5	18.6
192.295	31.3	QP	17.0	-19.4	28.9	88	100	Vert.	43.5	14.6
231.001	38.5	QP	17.1	-19.0	36.6	252	149	Hori.	46.0	9.4
231.004	43.9	QP	17.1	-19.0	42.0	264	100	Vert.	46.0	4.0
250.014	38.8	QP	17.1	-18.7	37.2	112	154	Hori.	46.0	8.8
250.014	42.1	QP	17.1	-18.7	40.5	232	100	Vert.	46.0	5.5
297.005	41.9	QP	20.2	-18.5	43.6	181	158	Hori.	46.0	2.4
297.005	34.0	QP	20.2	-18.5	35.7	184	100	Vert.	46.0	10.3
479.999	41.6	QP	18.8	-18.8	41.6	257	100	Hori.	46.0	4.4
480.000	45.3	QP	18.8	-18.8	45.3	77	100	Vert.	46.0	0.7
599.999	39.2	QP	19.7	-18.5	40.4	133	147	Hori.	46.0	5.6
600.000	37.6	QP	19.7	-18.5	38.8	49	100	Vert.	46.0	7.2
719.998	37.1	QP	20.8	-17.9	40.0	176	100	Vert.	46.0	6.0
719.999	33.7	QP	20.8	-17.9	36.6	113	117	Hori.	46.0	9.4

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

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 MiniPCI Card User Unit TEST DISTANCE : 3m / 1m / 0.5m
MODEL : FX-DS540-MPCI4W DATE : 11/11/2004 and 11/15/2004
SAMPLE NO. : 04MC2D1 TEMPERATURE : 22 and 22
POWER : DC3.3V(AC120V/60Hz) HUMIDITY : 54% and 60%
MODE : Transmitting (11a / 36,54Mbps / CH36:5180MHz) ENGINEER : Hiroka Umeyama
POSITION : MAX

35Mbps
PK DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		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	-	-	-	-	-	-	-	-	-	74.0	-	-
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	15540.0	43.2	44.2	42.7	35.9	16.6	0.8	57.9	58.9	74.0	16.1	15.1
2	20720.0	43.2	42.7	40.2	35.9	19.5	0.0	57.5	57.0	74.0	16.5	17.0

AV DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		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	-	-	-	-	-	-	-	-	-	54.0	-	-
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	15540.0	30.3	30.9	42.7	35.9	16.6	0.8	45.0	45.6	54.0	9.0	8.4
2	20720.0	30.2	30.2	40.2	35.9	19.5	0.0	44.5	44.5	54.0	9.5	9.5

54Mbps

PK DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		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	-	-	-	-	-	-	-	-	-	74.0	-	-
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	15540.0	43.5	43.4	42.7	35.9	16.6	0.8	58.2	58.1	74.0	15.8	15.9
2	20720.0	43.1	43.0	40.2	35.9	19.5	0.0	57.4	57.3	74.0	16.6	16.7

AV DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		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	-	-	-	-	-	-	-	-	-	54.0	-	-
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	15540.0	30.3	30.2	42.7	35.9	16.6	0.8	45.0	44.9	54.0	9.0	9.1
2	20720.0	30.3	30.4	40.2	35.9	19.5	0.0	44.6	44.7	54.0	9.4	9.3

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 MiniPCI Card User Unit TEST DISTANCE : 3m / 1m / 0.5m
MODEL : FX-DS540-MPCI4W DATE : 11/11/2004 and 11/15/2004
SAMPLE NO. : 04MC2D1 TEMPERATURE : 22 and 22
POWER : DC3.3V(AC120V/60Hz) HUMIDITY : 54% and 60%
MODE : Transmitting (11a / 36,54Mbps / CH52:5260MHz) ENGINEER : Hiroka Umeyama
POSITION : MAX

**36Mbps
PK DETECT**

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit PK [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	-	-	-	-	-	-	-	-	-	74.0	-	-
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	15780.0	43.3	46.9	43.0	36.2	16.7	0.8	58.1	61.7	74.0	15.9	12.3
2	21040.0	43.5	43.1	40.3	35.8	19.7	0.0	58.2	57.8	74.0	15.8	16.2

AV DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit AV [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	-	-	-	-	-	-	-	-	-	54.0	-	-
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	15780.0	30.5	33.9	43.0	36.2	16.7	0.8	45.3	48.7	54.0	8.7	5.3
2	21040.0	31.0	30.9	40.3	35.8	19.7	0.0	45.7	45.6	54.0	8.3	8.4

54Mbps

PK DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit PK [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	-	-	-	-	-	-	-	-	-	74.0	-	-
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	15780.0	43.6	41.2	43.0	36.2	16.7	0.8	58.4	56.0	74.0	15.6	18.0
2	21040.0	43.2	43.3	40.3	35.8	19.7	0.0	57.9	58.0	74.0	16.1	16.0

AV DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit AV [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	-	-	-	-	-	-	-	-	-	54.0	-	-
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	15780.0	30.5	31.0	43.0	36.2	16.7	0.8	45.3	45.8	54.0	8.7	8.2
2	21040.0	30.8	30.8	40.3	35.8	19.7	0.0	45.5	45.5	54.0	8.5	8.5

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 MiniPCI Card User Unit TEST DISTANCE : 3m / 1m / 0.5m
MODEL : FX-DS540-MPCI4W DATE : 11/11/2004 and 11/15/2004
SAMPLE NO. : 04MC2D1 TEMPERATURE : 22 and 22
POWER : DC3.3V(AC120V/60Hz) HUMIDITY : 54% and 60%
MODE : Transmitting (11a / 36.54Mbps / CH64:5320MHz) ENGINEER : Hiroka Umeyama
POSITION : MAX
36Mbps

PK DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit PK [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	-	-	-	-	-	-	-	-	-	74.0	-	-
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	10640.0	48.5	52.1	37.9	35.7	14.5	0.5	56.2	59.8	74.0	17.8	14.2
2	15960.0	44.3	47.8	43.3	36.4	16.9	0.7	59.3	62.8	74.0	14.7	11.2
3	21280.0	43.7	43.8	40.6	35.7	19.8	0.0	58.9	59.0	74.0	15.1	15.0

AV DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit AV [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	-	-	-	-	-	-	-	-	-	54.0	-	-
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	10640.0	36.0	35.6	37.9	35.7	14.5	0.5	43.7	43.3	54.0	10.3	10.7
2	15960.0	31.1	34.3	43.3	36.4	16.9	0.7	46.1	49.3	54.0	7.9	4.7
3	21280.0	31.6	31.5	40.6	35.7	19.8	0.0	46.8	46.7	54.0	7.2	7.3

54Mbps

PK DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit PK [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	-	-	-	-	-	-	-	-	-	74.0	-	-
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	10640.0	42.9	42.7	37.9	35.7	14.5	0.5	50.6	50.4	74.0	23.4	23.6
2	15960.0	43.4	44.6	43.3	36.4	16.9	0.7	58.4	59.6	74.0	15.6	14.4
3	21280.0	43.7	43.9	40.6	35.7	19.8	0.0	58.9	59.1	74.0	15.1	14.9

AV DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit AV [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	-	-	-	-	-	-	-	-	-	54.0	-	-
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	10640.0	29.2	29.4	37.9	35.7	14.5	0.5	36.9	37.1	54.0	17.1	16.9
2	15960.0	30.9	31.1	43.3	36.4	16.9	0.7	45.9	46.1	54.0	8.1	7.9
3	21280.0	31.5	31.5	40.6	35.7	19.8	0.0	46.7	46.7	54.0	7.3	7.3

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.

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FCC ID : PQRDSS40-MPCI4W

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

UL Apex Co., Ltd.

COMPANY : CONTEC CO., LTD.
EQUIPMENT : Wireless LAN MiniPCI Card User Unit
MODEL : FX-DS540-MPCI4W
SAMPLE NO. : 04MC2D1
POWER : DC3.3V(AC120V/60Hz)
MODE : Transmitting (11a / 36,54Mbps / CH149:5745MHz)
POSITION : MAX

Head Office EMC Lab. No.2 Semi Anechoic Chamber
REGULATION : Fcc Part15 Subpart E 15.407
TEST DISTANCE : 3m / 1m / 0.5m
DATE : 11/11/2004 and 11/15/2004
TEMPERATURE : 22 and 22
HUMIDITY : 54% and 60%
ENGINEER : Hiroka Umeyama

36Mbps

PK DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit PK [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	5095.0	47.2	44.8	36.3	36.0	10.3	0.0	57.8	55.4	74.0	16.2	18.6
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11490.0	44.9	47.6	39.7	35.5	14.9	0.6	55.1	57.8	74.0	18.9	16.2
2	22980.0	43.8	43.7	40.8	35.9	19.7	0.0	58.9	58.8	74.0	15.1	15.2

AV DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit AV [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	5095.0	34.1	35.5	36.3	36.0	10.3	0.0	44.7	46.1	54.0	9.3	7.9
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11490.0	29.7	36.4	39.7	35.5	14.9	0.6	39.9	46.6	54.0	14.1	7.4
2	22980.0	31.4	31.4	40.8	35.9	19.7	0.0	46.5	46.5	54.0	7.5	7.5

54Mbps

PK DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit PK [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	5095.0	43.8	41.8	36.3	36.0	10.3	0.0	54.4	52.4	74.0	19.6	21.6
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11490.0	42.1	44.5	39.7	35.5	14.9	0.6	52.3	54.7	74.0	21.7	19.3
2	22980.0	43.8	43.9	40.8	35.9	19.7	0.0	58.9	59.0	74.0	15.1	15.0

AV DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit AV [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	5095.0	34.1	35.5	36.3	36.0	10.3	0.0	44.7	46.1	54.0	9.3	7.9
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11490.0	28.9	30.9	39.7	35.5	14.9	0.6	39.1	41.1	54.0	14.9	12.9
2	22980.0	31.4	31.4	40.8	35.9	19.7	0.0	46.5	46.5	54.0	7.5	7.5

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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MF060b(10.04.03)

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 MiniPCI Card User Unit TEST DISTANCE : 3m / 1m / 0.5m
MODEL : FX-DS540-MPCI4W DATE : 11/11/2004 and 11/15/2004
SAMPLE NO. : 04MC2D1 TEMPERATURE : 22 and 22
POWER : DC3.3V(AC120V/60Hz) HUMIDITY : 54% and 60%
MODE : Transmitting (11a / 36,54Mbps / CH153:5765MHz) ENGINEER : Hiroka Umeyama
POSITION : MAX

36Mbps

PK DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit PK [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	5090.0	48.0	43.8	36.3	36.0	10.3	0.0	58.6	54.4	74.0	15.4	19.6
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11530.0	42.6	51.9	39.8	35.5	14.9	0.6	52.9	62.2	74.0	21.1	11.8
2	23060.0	43.9	43.7	40.7	35.8	19.7	0.0	59.0	58.8	74.0	15.0	15.2

AV DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit AV [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	5090.0	36.1	33.1	36.3	36.0	10.3	0.0	46.7	43.7	54.0	7.3	10.3
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11530.0	29.3	37.9	39.8	35.5	14.9	0.6	39.6	48.2	54.0	14.4	5.8
2	23060.0	31.3	31.3	40.7	35.8	19.7	0.0	46.4	46.4	54.0	7.6	7.6

54Mbps

PK DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit PK [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	5090.0	44.3	41.5	36.3	36.0	10.3	0.0	54.9	52.1	74.0	19.1	21.9
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11530.0	42.0	43.9	39.8	35.5	14.9	0.6	52.3	54.2	74.0	21.7	19.8
2	23060.0	43.8	43.7	40.7	35.8	19.7	0.0	58.9	58.8	74.0	15.1	15.2

AV DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		Limit AV [dBuV/m]	Margin [dB]	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
0	5090.0	32.6	31.3	36.3	36.0	10.3	0.0	43.2	41.9	54.0	10.8	12.1
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11530.0	28.8	31.7	39.8	35.5	14.9	0.6	39.1	42.0	54.0	14.9	12.0
2	23060.0	31.3	31.3	40.7	35.8	19.7	0.0	46.4	46.4	54.0	7.6	7.6

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.

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 MiniPCI Card User Unit	TEST DISTANCE : 3m / 1m / 0.5m
MODEL : FX-DSS40-MPCI4W	DATE : 11/11/2004 and 11/15/2004
SAMPLE NO. : 04MC2D1	TEMPERATURE : 22 and 22
POWER : DC3.3V(AC120V/60Hz)	HUMIDITY : 54% and 60%
MODE : Transmitting (11a / 36.54Mbps / CH161:5805MHz)	ENGINEER : Hiroka Umeyama
POSITION : MAX	

36Mbps

PK DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		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	5090.0	46.7	43.3	36.3	36.0	10.3	0.0	57.3	53.9	74.0	16.7	20.1
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11610.0	42.1	51.6	40.0	35.5	15.0	0.5	52.6	62.1	74.0	21.4	11.9

AV DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		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	5090.0	35.8	34.6	36.3	36.0	10.3	0.0	46.4	45.2	54.0	7.6	8.8
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11610.0	29.4	38.5	40.0	35.5	15.0	0.5	39.9	49.0	54.0	14.1	5.0

54Mbps

PK DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		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	5090.0	43.8	41.6	36.3	36.0	10.3	0.0	54.4	52.2	74.0	19.6	21.8
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11610.0	41.9	44.4	40.0	35.5	15.0	0.5	52.4	54.9	74.0	21.6	19.1

AV DETECT

No.	Freq. [MHz]	Reading [dBuV]		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result [dBuV/m]		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	5090.0	33.5	32.4	36.3	36.0	10.3	0.0	44.1	43.0	54.0	9.9	11.0
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
1	11610.0	28.9	32.1	40.0	35.5	15.0	0.5	39.4	42.6	54.0	14.6	11.4

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**

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 MiniPCI Card User Unit	TEST DISTANCE	: 3m / 1m / 0.5m
MODEL	: FX-DS540-MPCI4W	DATE	: 11/11/2004 and 11/15/2004
SAMPLE NO.	: 04MC2D1	TEMPERATURE	: 22 and 22
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 54% and 60%
MODE	: Transmitting (11a / 36,54Mbps / CH36:5180MHz)	ENGINEER	: Hiroka Umeyama
POSITION	: MAX		

36Mbps

No.	Freq. [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		Result (EIRP) [dBm]		Lmit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	3430.00	51.9	56.3	-43.3	-38.9	-27.0	16.3	11.9
2	5922.00	56.5	55.9	-38.7	-39.3	-27.0	11.7	12.3
3	10360.00	51.9	53.1	-43.3	-42.1	-27.0	16.3	15.1
4	25900.00	60.8	60.9	-34.4	-34.3	-27.0	7.4	7.3
5	31080.00	63.2	63.3	-32.0	-31.9	-27.0	5.0	4.9
6	36260.00	64.2	64.4	-31.0	-30.8	-27.0	4.0	3.8

54Mbps

No.	Freq. [MHz]	Electric Field Strength [dBuV/m]		Result (EIRP) [dBm]		Lmit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	3453.20	47.6	51.5	-47.6	-43.7	-27.0	20.6	16.7
2	10360.00	48.7	49.8	-46.5	-45.4	-27.0	19.5	18.4
3	25900.00	60.8	60.9	-34.4	-34.3	-27.0	7.4	7.3
4	31080.00	63.2	63.3	-32.0	-31.9	-27.0	5.0	4.9
5	36260.00	64.2	64.4	-31.0	-30.8	-27.0	4.0	3.8

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.

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 MiniPCI Card User Unit TEST DISTANCE : 3m / 1m / 0.5m
MODEL : FX-DS540-MPCI4W DATE : 11/11/2004 and 11/15/2004
SAMPLE NO. : 04MC2D1 TEMPERATURE : 22 and 22
POWER : DC3.3V(AC120V/60Hz) HUMIDITY : 54% and 60%
MODE : Transmitting (11a / 36,54Mbps / CH52:5260MHz) ENGINEER : Hiroka Umeyama
POSITION : MAX

36Mbps

No.	Freq. [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		Result (EIRP) [dBm]		Lmit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	3507.00	50.8	57.7	-44.4	-37.5	-27.0	17.4	10.5
2	10520.00	55.0	57.0	-40.2	-38.2	-27.0	13.2	11.2
3	26300.00	62.0	61.9	-33.2	-33.3	-27.0	6.2	6.3
4	31560.00	65.4	65.5	-29.8	-29.7	-27.0	2.8	2.7
5	36820.00	64.0	63.9	-31.2	-31.3	-27.0	4.2	4.3

54Mbps

No.	Freq. [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		Result (EIRP) [dBm]		Lmit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	3507.00	46.1	55.8	-49.1	-39.4	-27.0	22.1	12.4
2	10520.00	49.5	50.9	-45.7	-44.3	-27.0	18.7	17.3
3	26300.00	62.0	61.9	-33.2	-33.3	-27.0	6.2	6.3
4	31560.00	65.4	65.5	-29.8	-29.7	-27.0	2.8	2.7
5	36820.00	64.0	63.9	-31.2	-31.3	-27.0	4.2	4.3

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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Issued date : November 30, 2004
Revised date : December 8, 2004
FCC ID : PQRDSS40-MPCI4W

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 MiniPCI Card User Unit	TEST DISTANCE	: 3m / 1m / 0.5m
MODEL	: FX-DSS40-MPCI4W	DATE	: 11/11/2004 and 11/15/2004
SAMPLE NO.	: 04MC2D1	TEMPERATURE	: 22 and 22
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 54% and 60%
MODE	: Transmitting (11a / 36.54Mbps / CH64:5320MHz)	ENGINEER	: Hiroka Umeyama
POSITION	: MAX		

36Mbps

No.	Freq. [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		Result (EIRP) [dBm]		Lmit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	3546.70	51.4	58.2	-43.8	-37.0	-27.0	16.8	10.0
2	26600.00	61.7	61.6	-33.5	-33.6	-27.0	6.5	6.6
3	31920.00	65.2	65.1	-30.0	-30.1	-27.0	3.0	3.1
4	37240.00	64.4	64.3	-30.8	-30.9	-27.0	3.8	3.9

54Mbps

No.	Freq. [MHz]	Electric Field Strength [dBuV/m]		Result (EIRP) [dBm]		Lmit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	3546.70	50.3	57.2	-44.9	-38.0	-27.0	17.9	11.0
2	26600.00	61.7	61.6	-33.5	-33.6	-27.0	6.5	6.6
3	31920.00	65.2	65.1	-30.0	-30.1	-27.0	3.0	3.1
4	37240.00	64.4	64.3	-30.8	-30.9	-27.0	3.8	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.

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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 MiniPCI Card User Unit	TEST DISTANCE	: 3m / 1m / 0.5m
MODEL	: FX-DS540-MPCI4W	DATE	: 11/11/2004 and 11/15/2004
SAMPLE NO.	: 04MC2D1	TEMPERATURE	: 22 and 22
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 54% and 60%
MODE	: Transmitting (11a / 36,54Mbps / CH149:5745MHz)	ENGINEER	: Hiroka Umeyama
POSITION	: MAX		

36Mbps

No.	Freq. [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		Result (EIRP) [dBm]		Lmit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	5923.00	55.6	59.2	-39.6	-36.0	-27.0	12.6	9.0
2	17235.00	64.2	62.6	-31.0	-32.6	-27.0	4.0	5.6
3	28725.00	62.0	61.9	-33.2	-33.3	-27.0	6.2	6.3
4	34470.00	62.7	62.6	-32.5	-32.6	-27.0	5.5	5.6

54Mbps

No.	Freq. [MHz]	Electric Field Strength [dBuV/m]		Result (EIRP) [dBm]		Lmit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	5923.00	55.3	57.5	-39.9	-37.7	-27.0	12.9	10.7
2	17235.00	64.1	64.2	-31.1	-31.0	-27.0	4.1	4.0
3	28725.00	62.0	61.9	-33.2	-33.3	-27.0	6.2	6.3
4	34470.00	62.7	62.6	-32.5	-32.6	-27.0	5.5	5.6

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 MiniPCI Card User Unit	TEST DISTANCE	: 3m / 1m / 0.5m
MODEL	: FX-DSS40-MPCI4W	DATE	: 11/11/2004 and 11/15/2004
SAMPLE NO.	: 04MC2D1	TEMPERATURE	: 22 and 22
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 54% and 60%
MODE	: Transmitting (11a / 36.54Mbps / CH153:5765MHz)	ENGINEER	: Hiroka Umeyama
POSITION	: MAX		

36Mbps

No.	Freq. [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		Result (EIRP) [dBm]		Lmit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	5923.00	55.6	55.6	-39.6	-39.6	-27.0	12.6	12.6
2	17295.00	64.3	51.2	-30.9	-44.0	-27.0	3.9	17.0
3	28825.00	62.3	62.2	-32.9	-33.0	-27.0	5.9	6.0
4	34590.00	63.1	63.2	-32.1	-32.0	-27.0	5.1	5.0

54Mbps

No.	Freq. [MHz]	Electric Field Strength [dBuV/m]		Result (EIRP) [dBm]		Lmit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	5923.00	54.9	57.3	-40.3	-37.9	-27.0	13.3	10.9
2	17295.00	64.3	64.2	-30.9	-31.0	-27.0	3.9	4.0
3	28825.00	62.3	62.2	-32.9	-33.0	-27.0	5.9	6.0
4	34590.00	63.1	63.2	-32.1	-32.0	-27.0	5.1	5.0

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 MiniPCI Card User Unit TEST DISTANCE : 3m / 1m / 0.5m
MODEL : FX-DS540-MPCI4W DATE : 11/11/2004 and 11/15/2004
SAMPLE NO. : 04MC2D1 TEMPERATURE : 22 and 22
POWER : DC3.3V(AC120V/60Hz) HUMIDITY : 54% and 60%
MODE : Transmitting (11a / 36,54Mbps / CH161:5805MHz) ENGINEER : Hiroka Umeyama
POSITION : MAX

36Mbps

No.	Freq. [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		Result (EIRP) [dBm]		Lmit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	5923.00	54.8	59.2	-40.4	-36.0	-27.0	13.4	9.0
2	17415.00	62.7	62.2	-32.5	-33.0	-27.0	5.5	6.0
3	23220.00	58.7	58.6	-36.5	-36.6	-27.0	9.5	9.6
4	29025.00	62.1	62.0	-33.1	-33.2	-27.0	6.1	6.2
5	34830.00	62.9	63.0	-32.3	-32.2	-27.0	5.3	5.2

54Mbps

No.	Freq. [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		Result (EIRP) [dBm]		Lmit [dBm]	Margin [dB]	
		HOR	VER	HOR	VER		HOR	VER
1	5923.00	55.3	58.6	-39.9	-36.6	-27.0	12.9	9.6
2	17415.00	64.6	64.4	-30.6	-30.8	-27.0	3.6	3.8
3	23220.00	58.7	58.6	-36.5	-36.6	-27.0	9.5	9.6
4	29025.00	62.1	62.0	-33.1	-33.2	-27.0	6.1	6.2
5	34830.00	62.9	63.0	-32.3	-32.2	-27.0	5.3	5.2

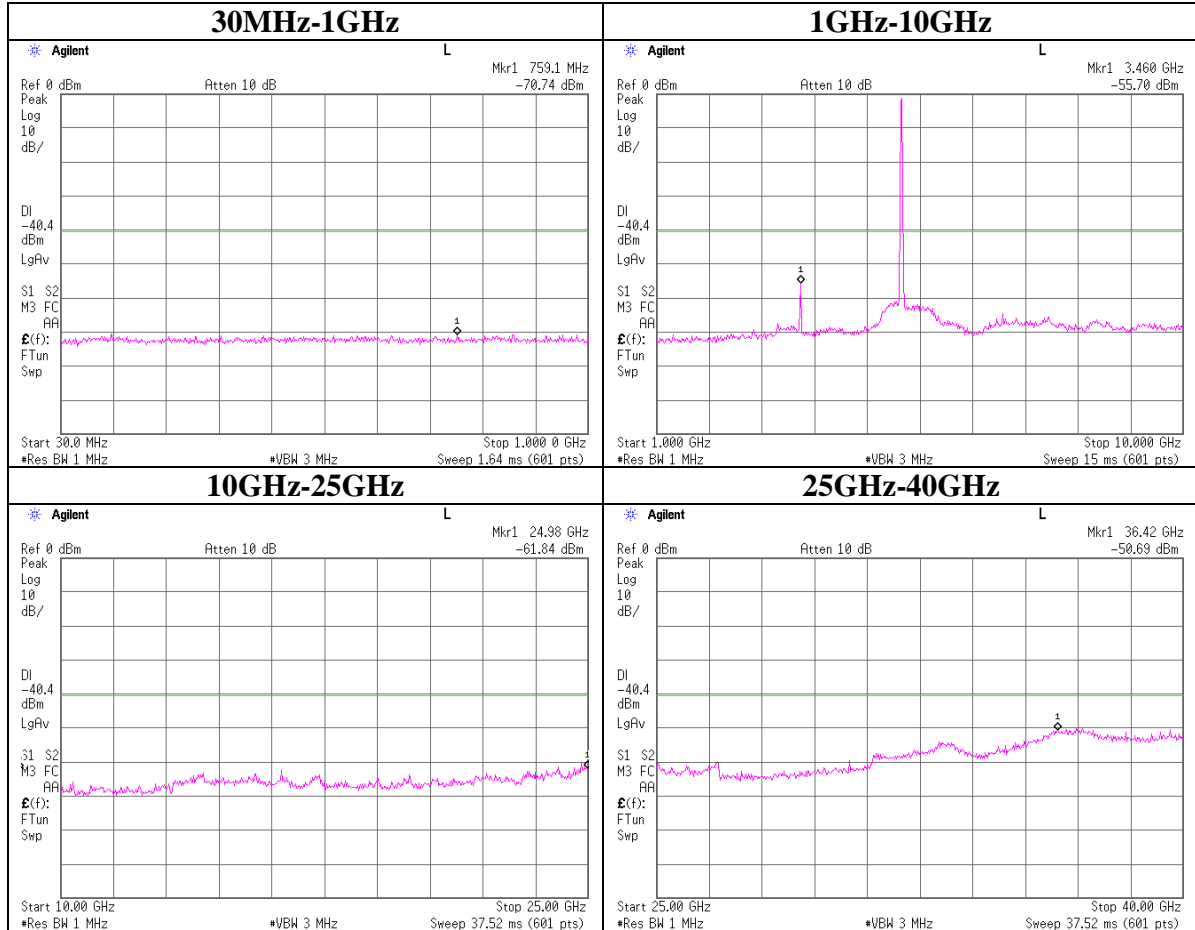
Result(EIRP[dBm])=10*LOG((Electric Field Strength [V/m] * Distance:3[m]) ^ 2 / 30)

*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)
36Mbps Antenna:A

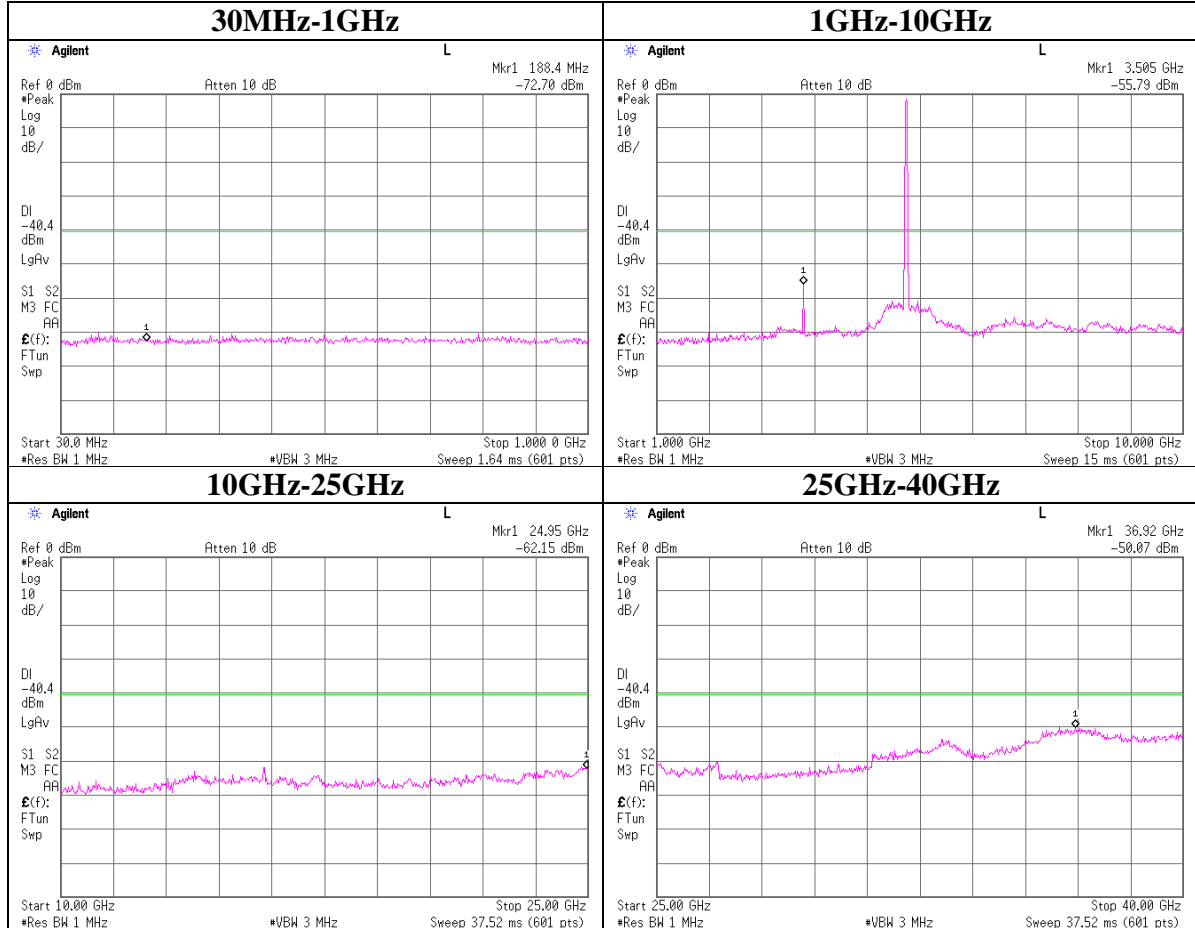
Ch : 36



Conducted Spurious Emission(DSSS and other forms of modulation)

36Mbps Antenna:A

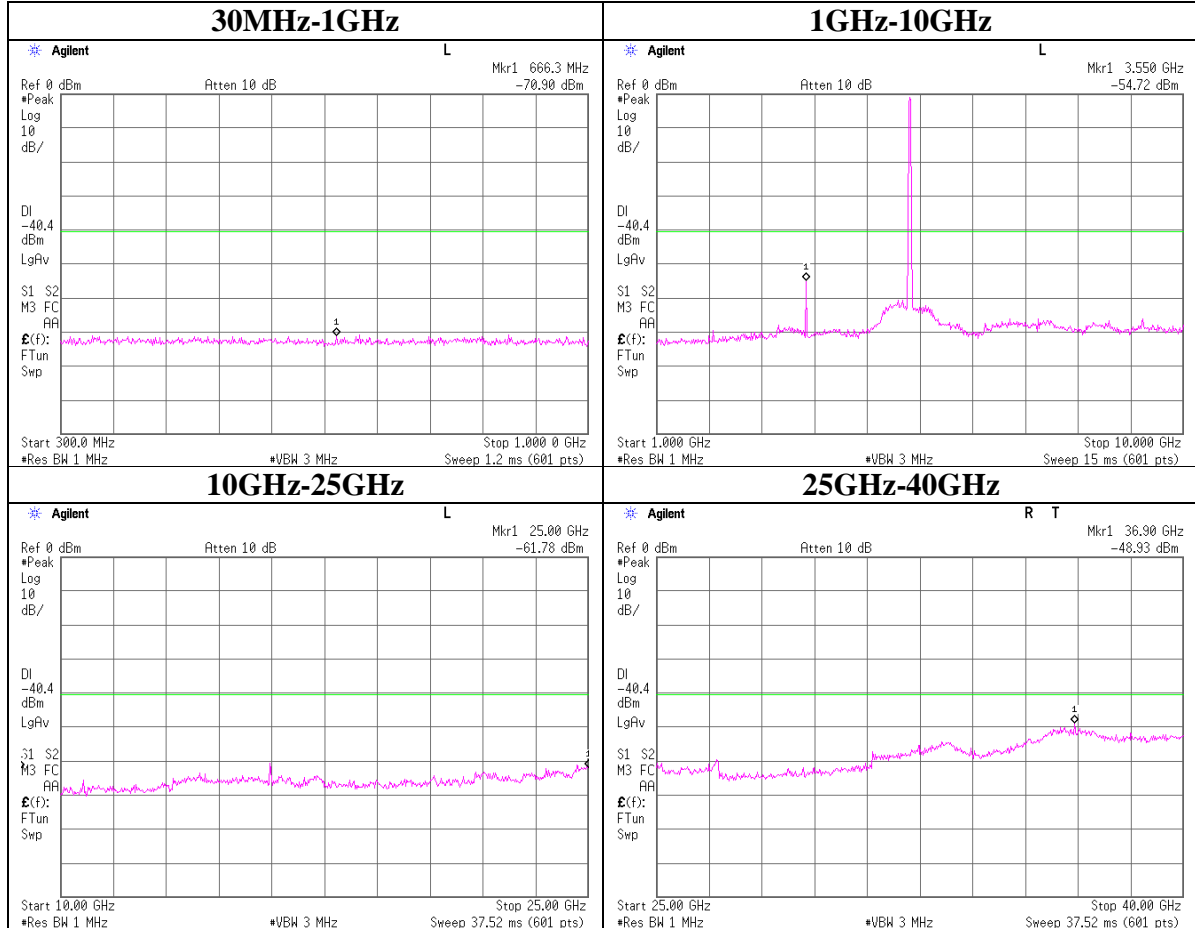
Ch : 52



Conducted Spurious Emission(DSSS and other forms of modulation)

36Mbps Antenna:A

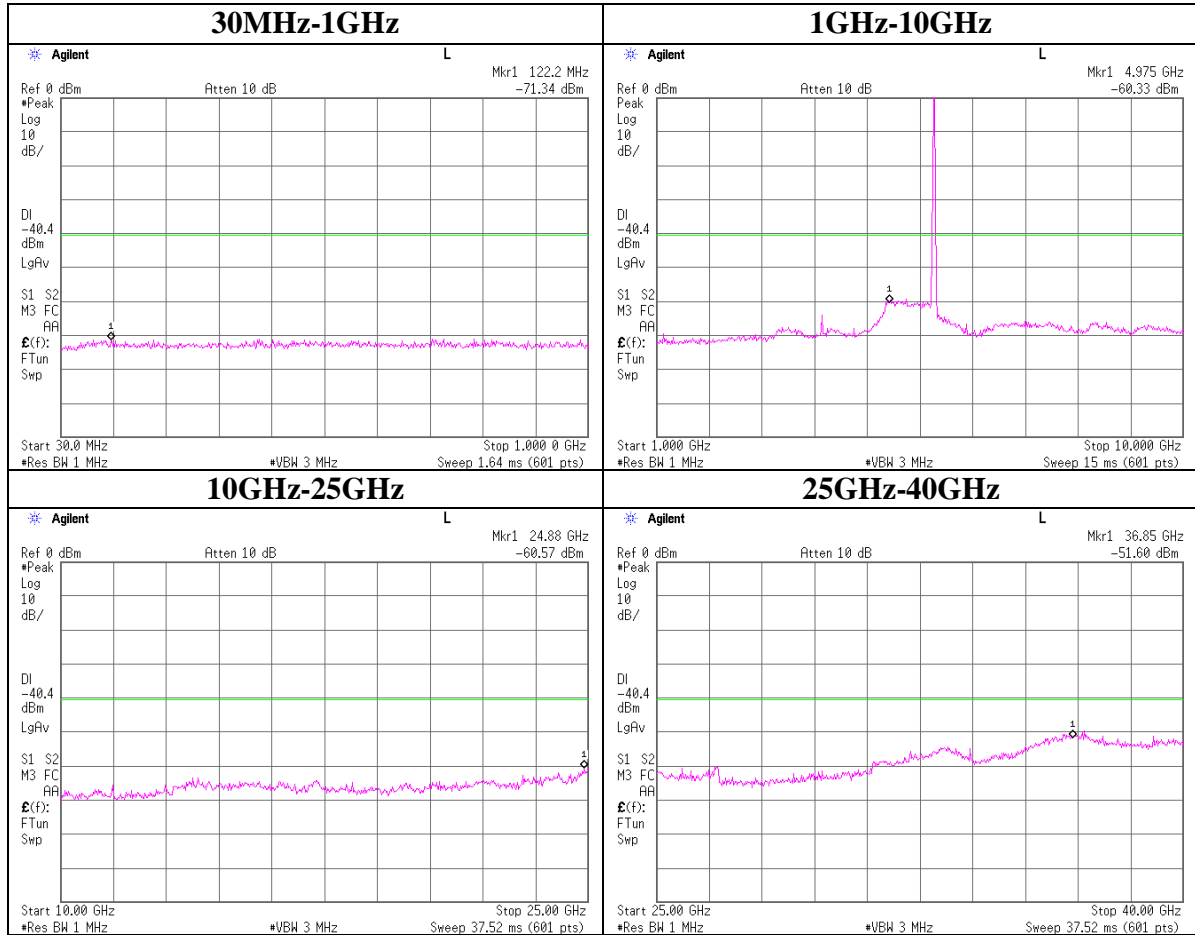
Ch : 64



Conducted Spurious Emission(DSSS and other forms of modulation)

36Mbps Antenna:A

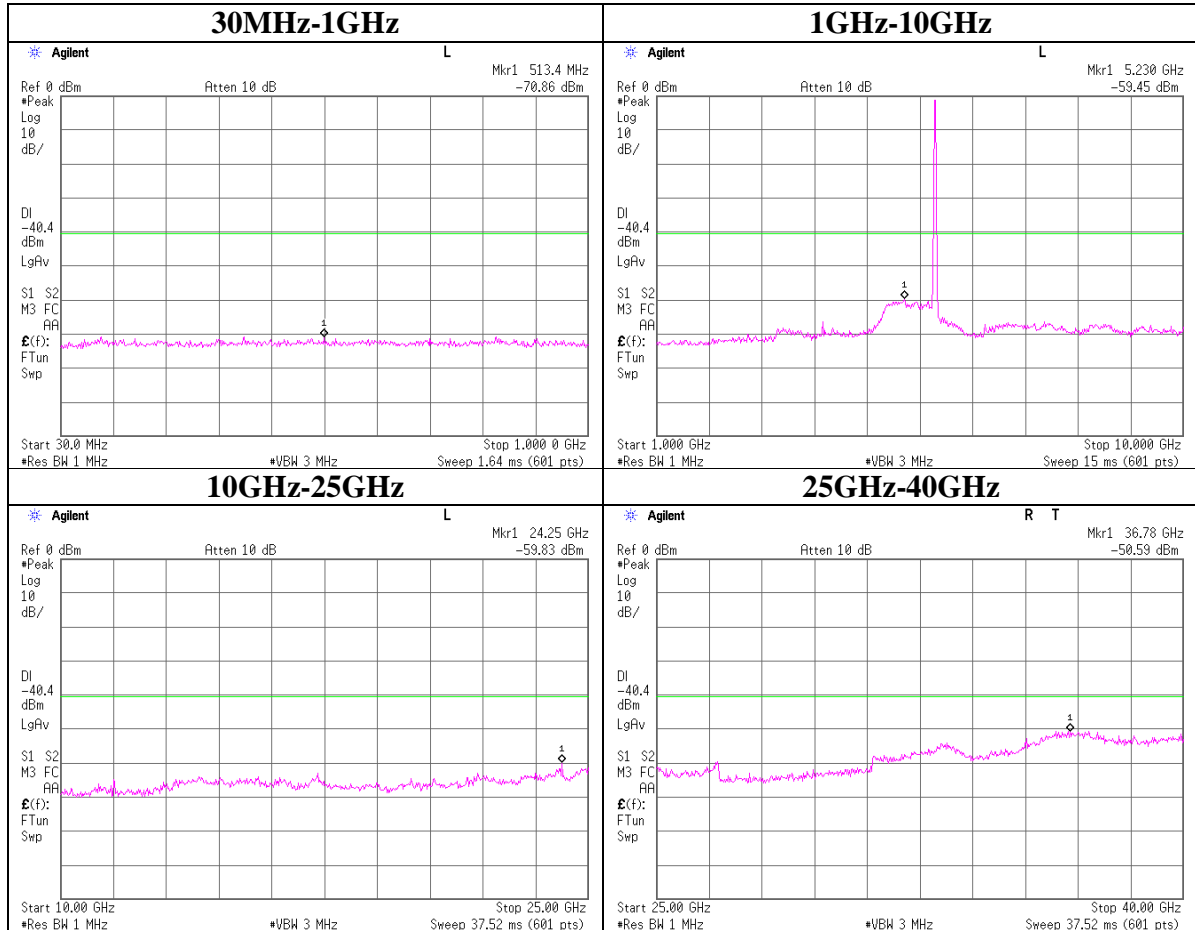
Ch : 149



Conducted Spurious Emission(DSSS and other forms of modulation)

36Mbps Antenna:A

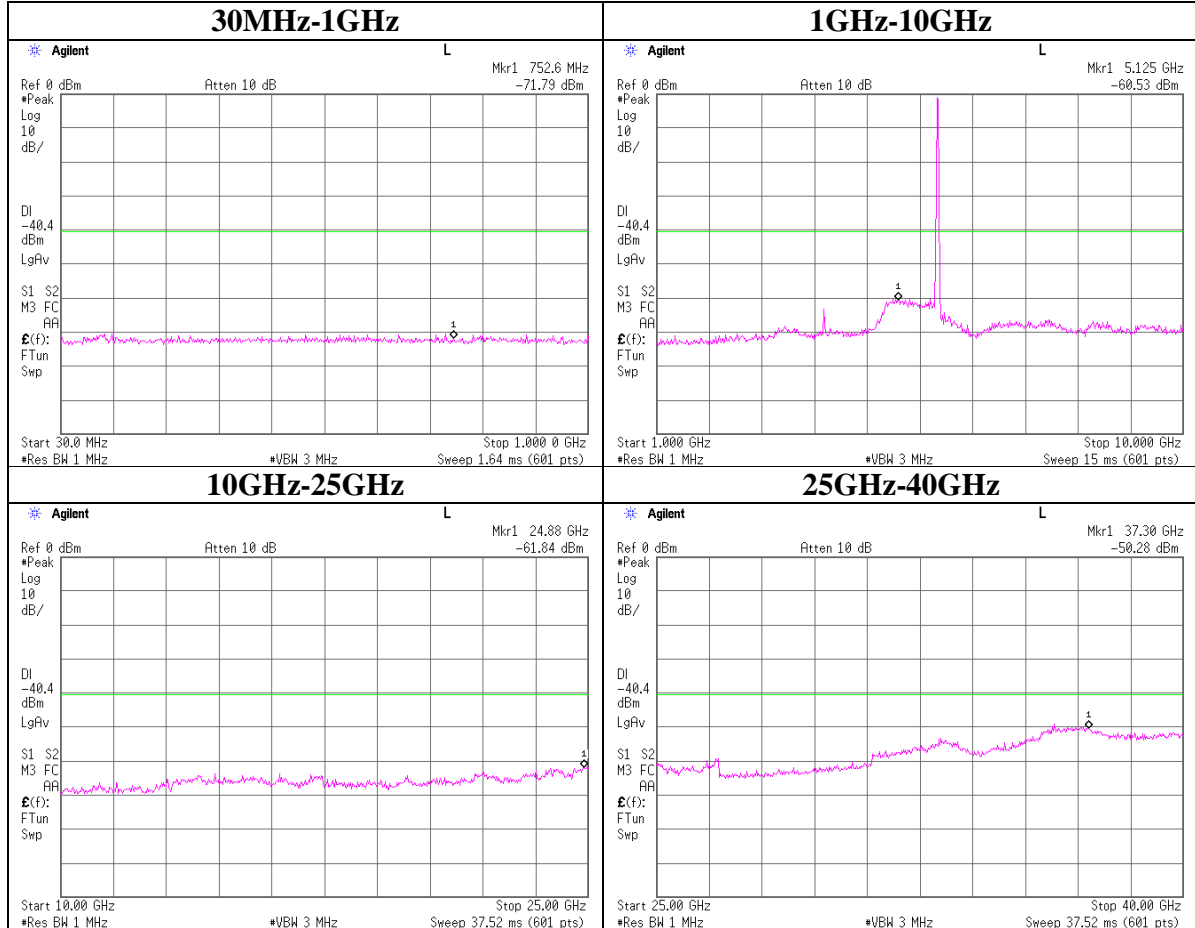
Ch : 153



Conducted Spurious Emission(DSSS and other forms of modulation)

36Mbps Antenna:A

Ch : 161



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Revised date : December 8, 2004
FCC ID : PQRDSS40-MPCI4W

Radiated emission Band Edge compliance

36Mbps Antenna:A

UL Apex Co., Ltd.
Head Office EMC Lab. Semi Anechoic Chamber : No2

COMPANY	CONTEC CO., LTD.	REPORT NO	25CE0272-HO
EQUIPMENT	Wireless LAN MiniPCI Card User Unit	REGULATION	FCC15.407
MODEL	FX-DS540-MPCI4W	TEST DISTANCE	3m
S/N	04MC2D1	DATE	11/11/2004
POWER	DC3.3V	TEMPERATURE	22 deg.C.
MODE	Tx 5745/5805 MHz	HUMIDITY	54%
POSITION	H: X-axis / V: Z-axis	CALIBRATION	OK
TX ANTENNA HIGH	0.8m	ENGINEER	Hiroka Umeyama
	11a, 36Mbps		

No.	FREQUENCY [MHz]	Electric Field Strength (After Factor Calculation)		RESULT (ERP)		LIMIT [dBm] (ERP)	MARGIN		Mode
		[dBuV/m]		[dBm]			[dB]		
		HOR	VER	HOR	VER		HOR	VER	
1	5715.00	59.0	63.3	-42.6	-38.8	-27.0	15.6	11.8	Operating
2	5725.00	82.6	81.1	-19.0	-21.0	-17.0	2.0	4.0	Operating
3	5825.00	82.1	80.7	-19.6	-21.5	-17.0	2.6	4.5	Operating
4	5835.00	63.5	63.2	-38.2	-39.0	-27.0	11.2	12.0	Operating

Rx-ANTENNA : Biconical Antenna(30-300MHz), Logperriodic Antenna(300-1000MHz), Horn Antenna(1-12.75GHz)
Tx-ANTENNA : Dipole Antenna(30-1000MHz), 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
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	5150.0	43.3	42.6	36.3	35.9	10.4	0.0	54.1	53.4	74.0	19.9	20.6
2	5350.0	51.9	51.3	36.2	35.8	10.6	0.0	62.9	62.3	74.0	11.1	11.7

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
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	5150.0	31.2	30.9	36.3	35.9	10.4	0.0	42.0	41.7	54.0	12.0	12.3
2	5350.0	37.1	35.1	36.2	35.8	10.6	0.0	48.1	46.1	54.0	5.9	7.9

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MF060b(10.04.03)

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Issued date : November 30, 2004
Revised date : December 8, 2004
FCC ID : PQRD5540-MPCI4W

Radiated emission Band Edge compliance

54Mbps Antenna:A

UL Apex Co., Ltd.
Head Office EMC Lab. Semi Anechoic Chamber : No2

COMPANY	CONTEC CO., LTD.	REPORT NO	25CE0272-HO
EQUIPMENT	Wireless LAN MiniPCI Card User Unit	REGULATION	FCC15.407
MODEL	FX-DS540-MPCI4W	TEST DISTANCE	3m
S/N	04MC2D1	DATE	11/11/2004
POWER	DC3.3V	TEMPERATURE	22 deg.C.
MODE	Tx 5745/5805 MHz	HUMIDITY	54%
POSITION	H: X-axis / V: Z-axis	CALIBRATION	OK
TX ANTENNA HIGH	0.8m	ENGINEER	Hiroka Umeyama
	11a, 54Mbps		

No.	FREQUENCY [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		RESULT (ERP) [dBm]		LIMIT [dBm] (ERP)	MARGIN [dB]		Mode
		HOR	VER	HOR	VER		HOR	VER	
		1	5715.00	56.7	56.5		-44.9	-45.6	
2	5725.00	73.2	72.9	-28.4	-29.2	-17.0	11.4	12.2	Operating
3	5825.00	74.7	71.7	-27.0	-30.5	-17.0	10.0	13.5	Operating
4	5835.00	57.2	57.6	-44.5	-44.6	-27.0	17.5	17.6	Operating

Rx-ANTENNA : Biconical Antenna(30-300MHz), Logperriodic Antenna(300-1000MHz), Horn Antenna(1-12.75GHz)
Tx-ANTENNA : Dipole Antenna(30-1000MHz), 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 [dBuV/m]	VER [dBuV/m]					HOR [dBuV/m]	VER [dBuV/m]		HOR [dB]	VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	5150.0	41.1	42.3	36.3	35.9	10.4	0.0	51.9	53.1	74.0	22.1	20.9
2	5350.0	45.1	42.5	36.2	35.8	10.6	0.0	56.1	53.5	74.0	17.9	20.5

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 [dBuV/m]	VER [dBuV/m]					HOR [dBuV/m]	VER [dBuV/m]		HOR [dB]	VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	5150.0	30.5	32.0	36.3	35.9	10.4	0.0	41.3	42.8	54.0	12.7	11.2
2	5350.0	32.1	30.8	36.2	35.8	10.6	0.0	43.1	41.8	54.0	10.9	12.2

UL Apex Co., Ltd.

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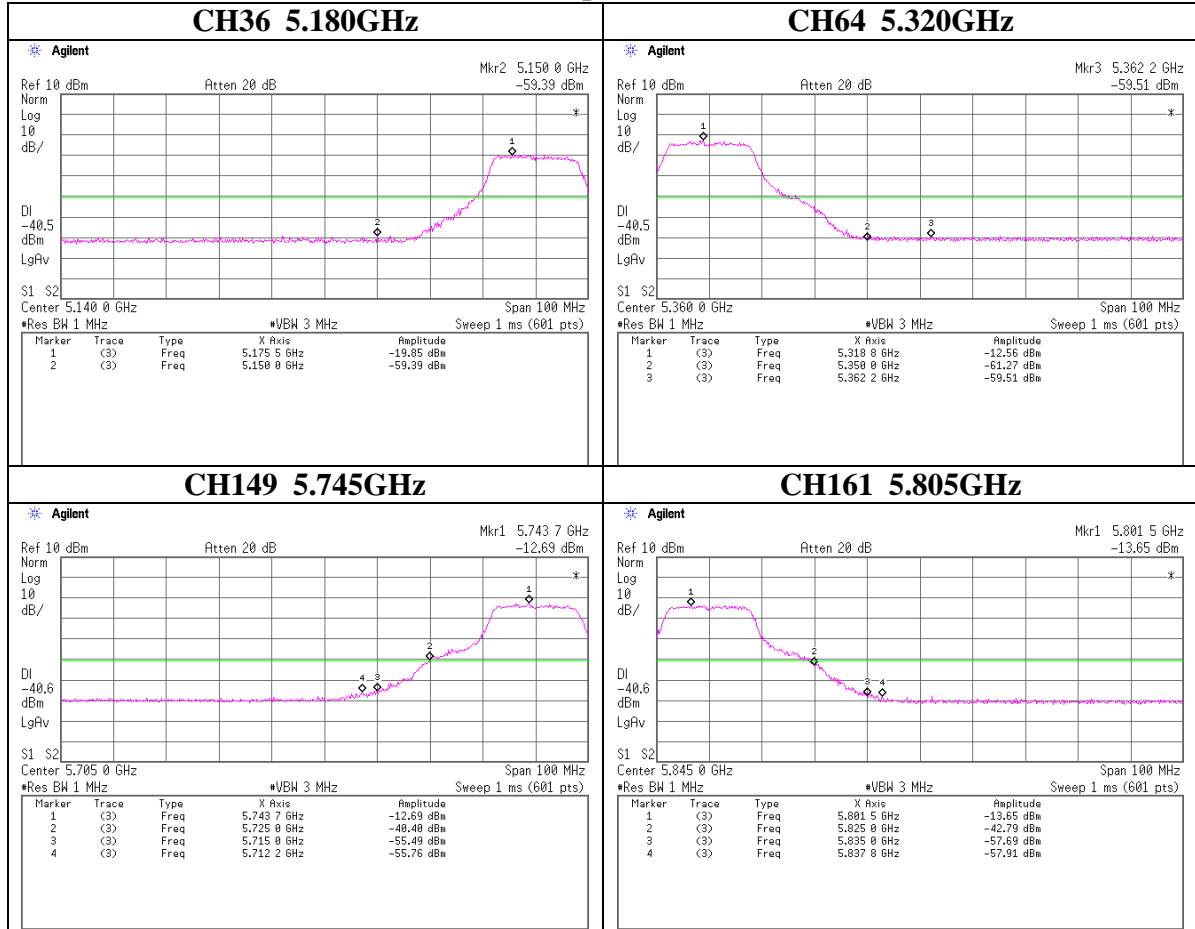
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MF060b(10.04.03)

Conducted emission Band Edge compliance

36Mbps Antenna:A



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-MPC14W
Sample No. : 04MC2D0
Power : DC3.3V
Mode : Tx IEEE 802.11a 36Mbps
: Continuous Transmitting

REPORT NO : 25DE0272-HO
REGULATION : FCC 15.407(a)(1)(2)(3)
TEST DISTANCE : -
DATE : 11/15/2004
TEMPERATURE : 22deg.C
HUMIDITY : 52%
ENGINEER : Hiroka Umeyama

Ch	Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
36	5180.0	-18.42	2.9	10.2	-5.3	4.0	9.3
52	5260.0	-15.00	2.9	10.2	-1.9	4.0	5.9
64	5320.0	-12.55	3.0	10.2	0.6	11.0	10.4
149	5745.0	-14.36	3.0	10.2	-1.2	17.0	18.2
153	5765.0	-13.90	3.0	10.2	-0.7	17.0	17.7
161	5805.0	-14.57	3.0	10.2	-1.4	17.0	18.4

Sample Calculation:

Result = Reading + Cable Loss + Attenuator

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

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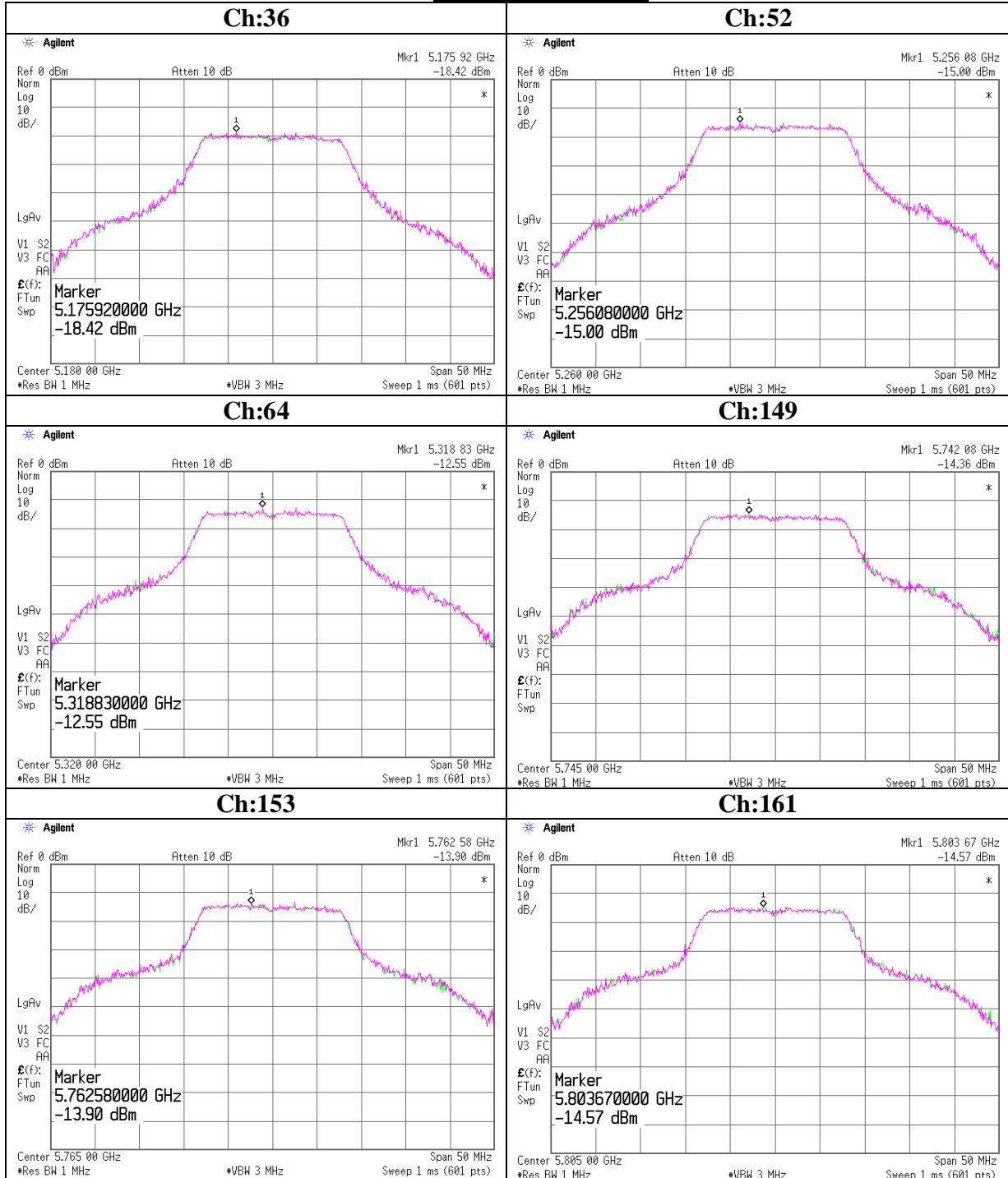
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MF060b(10.04.03)

Peak Power Spectral Density
36Mbps Antenna:A



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FCC ID : PQRD540-MPC14W

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-MPC14W
Sample No. : 04MC2D0
Power : DC3.3V
Mode : Tx IEEE 802.11a 36Mbps
: Continuous Transmitting

REPORT NO : 25CE0272-HO
REGULATION : FCC 15.407(a)(6)
TEST DISTANCE : -
DATE : 11/15/2004
TEMPERATURE : 22deg.C
HUMIDITY : 52%
ENGINEER : Hiroka Umeyama

Ch	Freq. [MHz]	Peak Power Excursion [dB]	Limit [dB]
36	5180.0	9.050	13.0
52	5260.0	9.930	13.0
64	5320.0	9.530	13.0
149	5745.0	9.980	13.0
153	5765.0	9.220	13.0
161	5805.0	9.280	13.0

UL Apex Co., Ltd.

Head Office EMC Lab.

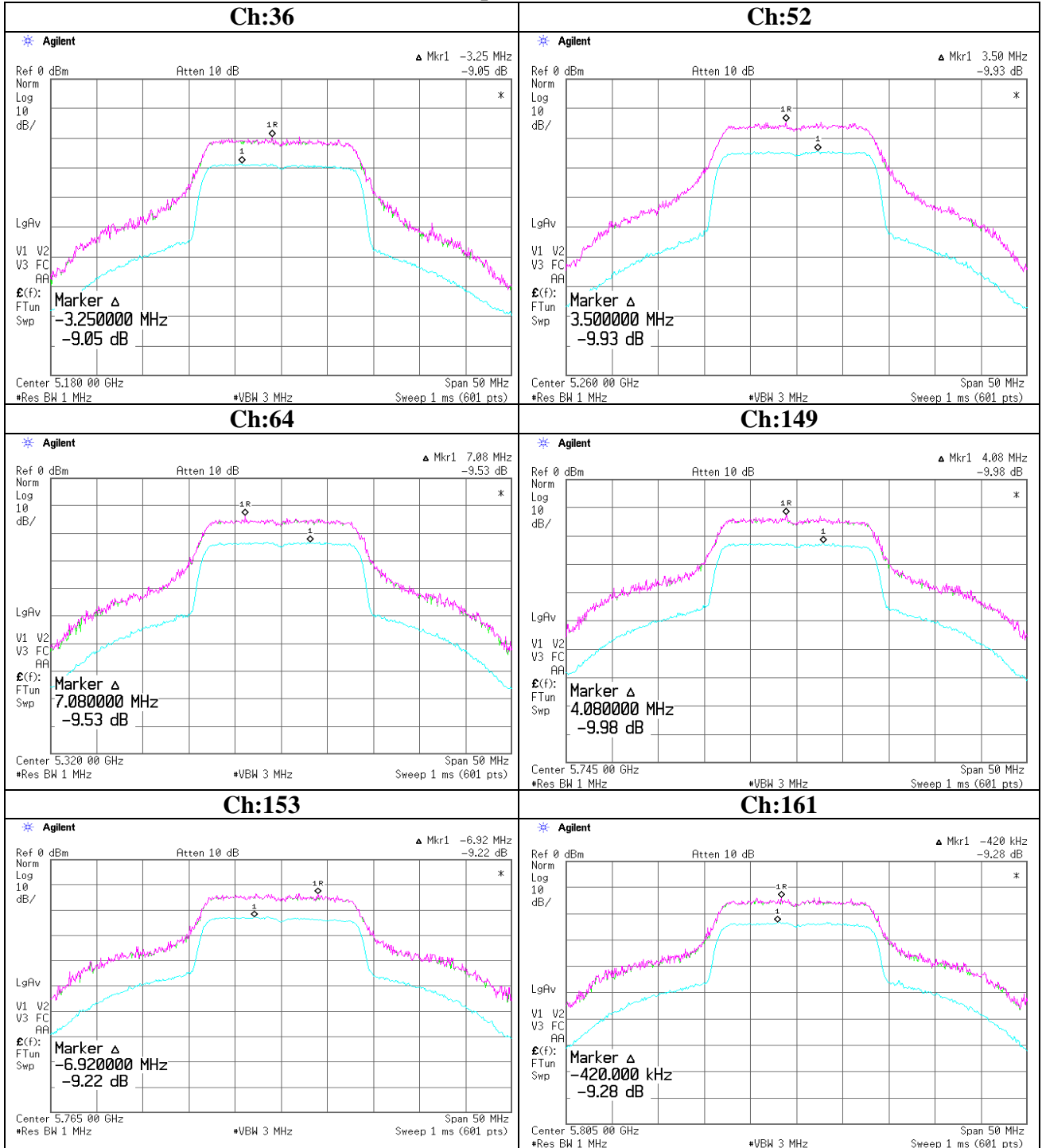
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MF060b(10.04.03)

Peak Excursion Ratio
36Mbps Antenna:A



99% Occupied Bandwidth
36Mbps Antenna:A

