EMI TEST REPORT

Test Report No. : 26FE0180-HO-5

Applicant	:	**CONTEC CO., LTD.**
Type of Equipment	:	**Wireless LAN MiniPCI Card**
Model No.	:	**FX-DS540-MPCI6**
Test standard	:	**FCC Part 15 Subpart E Section 15.407 : 2006**
FCC ID	:	**PQRDS540-MPCI6**
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:

February 14 to 28, 2006

Tested by :

Hiroka Umeyama
EMC Services

Kenichi Adachi
EMC Services

Approved by :

Naoki Sakamoto
Group Leader of EMC Services

UL Apex Co., Ltd.
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SECTION 1: Client information

Company Name	:	CONTEC CO., LTD.
Address	:	33-9-31, Himesato, Nishiyodogawa-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 MiniPCI Card
Model No.	:	FX-DS540-MPCI6
Serial No.	:	C09A5440017CC01 for Antenna terminal tests C09A54400135C01 for Spurious and Conducted emission tests
Rating	:	DC3.3V, 0.54A
Country of Manufacture	:	Japan
Receipt Date of Sample	:	February 13, 2006
Condition of EUT	:	Production model

2.2 Product Description

Clock frequency	:	40MHz
Equipment Type	:	Transceiver
Frequency of operation	:	[IEEE802.11b/g]2412-2462MHz / [IEEE802.11a]5180-5825MHz
Type of modulation	:	OFDM, DSSS
Bandwidth &Channel number	:	[IEEE802.11b/g]22MHz & 5MHz, [IEEE802.11a]17MHz & 20MHz
Antenna Type	:	Chip Antenna
Antenna Gain	:	2.0dBi (2.4GHz)/ 3.0dBi (5GHz)
Antenna Connector Type	:	AYU1
Operating voltage (inner)	:	DC2.97V to 3.63V
Operating temperature range	:	0 to 70 deg.C.

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

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
This EUT complies with the requirement of 15.407, because a unique coupling (antenna connector, Type: AYU1) is used for this EUT.

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part15 Subpart E : 2006
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)(6)(7) 15.205/15.209	Conducted	N/A		Complied
6	Spurious Emission	ANSI C63.4:2003		Radiated	N/A	0.1dB 5120MHz, Hor (5765MHz)	Complied
7	AC Conducted Emission	ANSI C63.4:2003	Section 15.407(b)(6)/15.207	-	N/A	13.9dB 12.2916MHz 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.

*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	RSS-Gen 4.4.1	-	Conducted	N/A	N/A	N/A

3.4 Uncertainty

Conducted Emission
The measurement uncertainty (with a 95% confidence level) for this test is ±2.66dB.
The data listed in this report have enough margin, more than site margin.

Spurious Emission (Radiated)
The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is ±4.59dB(3m)/ ±4.58dB(10m).
The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is ±4.62dB(3m)/ ±4.60dB(10m).
The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is ±5.27dB.
The data listed in this report meets the limits unless the uncertainty is taken into consideration.

Other test except Conducted Emission and Spurious Emission (Radiated)
The measurement uncertainty (with a 95% confidence level) for this test is ±3.0dB.

3.5 Test Location

UL Apex Co., Ltd. Head Office EMC Lab. *NVLAP Lab. code: 200572-0
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116
Facsimile : +81 596 24 8124

	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	313583	IC4247	19.2 x 11.2 x 7.7m	7.0 x 6.0m	Preparation room
No.2 semi-anechoic chamber	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.

3.6 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 (IEEE802.11a)
Channel 36: 5180MHz
Channel 52: 5260MHz
Channel 64: 5320MHz
Channel 149: 5745MHz
Channel 153: 5765MHz
Channel 161: 5805MHz

Receiving mode (IEEE802.11a)
Channel 52: 5260MHz
Channel 153: 5765MHz

Conditions : 1) IEEE802.11a:6,9,12,18,24,36,48,54 Mbps
2) Antenna Port: A,B (same type)

*We pre-confirmed the above conditions on EUT and performed the final test with the following conditions;

	IEEE802.11a
Conducted emission test	1)Rate:54Mbps
	2)Antenna Port:A
Radiated emission test	1)Rate:18Mbps
	2)Antenna Port:A
Other tests	1)Rate:24/54Mbps
	2)Antenna Port:B

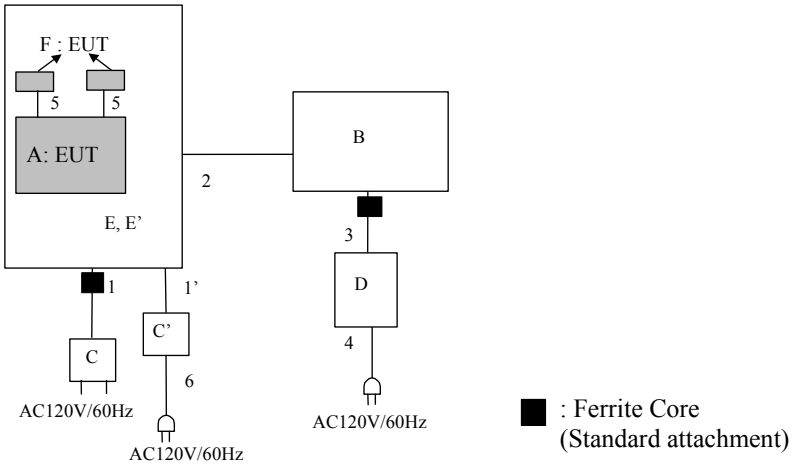
<The details>

Conducted emission test : The above conditions did not affect the test result so that the test was made with these conditions in the above table.

Radiated emission test : As for Rate,18Mbps (Maximum transmission rate of 11a) had worst margins.
The result of Antenna Port A had worst margin.

Other tests : As for Rate, 24Mbps (Maximum transmission rate of 11g/a) had worst margins.
The result of Antenna Port B had worst margin.
The tests that may be affected by the noise were performed with maximum rate 54Mbps.
The test of peak power density was performed with antenna B.

4.2 Configuration and peripherals



*Cabling and setup were 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	FX-DS540-MPCI6	C09A5440017CC01 for Antenna terminal tests C09A54400135C01 for Spurious and Conducted emission tests	CONTEC	PQRDS540-MPCI6
B	Note PC	2887-7KJ	99-BP829	IBM	DOC
C	3.3V AC Adapter	VHE10P1-33MP	-	AK-II	- *1)
C'	AC Adapter	TAS4600-Y-1-CON	-	KAGA COMPONENTS	- *2)
D	AC Adapter	08K8204	11S08K8204Z1Z9V049L67G	IBM	-
E	Main Board of Wireless LAN Access Point	FX-DS540-APDL2-U	-	CONTEC	- *1)
E'	Main Board of Wireless LAN Access Point	FX-DS540-STB-M-U			- *2)
F	Chip Antenna	-	-	FDK	-

*1) Used for radiated emission test above 1GHz
*2) Used for radiated emission test below 1GHz

List of cables used

No.	Name	Length (m)	Shield	Remarks
1	DC Cable	1.5	N	*1)
1'	DC Cable	1.5	N	*2)
2	LAN Cross Cable	1.5	N	-
3	DC Cable	1.8	N	-
4	AC Cable	1.0	N	-
5	Antenna Cable	0.075	Y	-
6	AC cable	1.0	N	*2)

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**

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 : 20log(3[m]/1[m])) and 0.3m(Upper 26.5GHz, Distance Factor : 20log(3[m]/0.3[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 used	Test Receiver	Spectrum Analyzer	Spectrum Analyzer
Detector IF Bandwidth	QP: BW 120kHz	PK: RBW:1MHz/VBW: 1MHz AV: RBW:1MHz/VBW:10Hz	RBW:1MHz/VBW: 1MHz

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.

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.

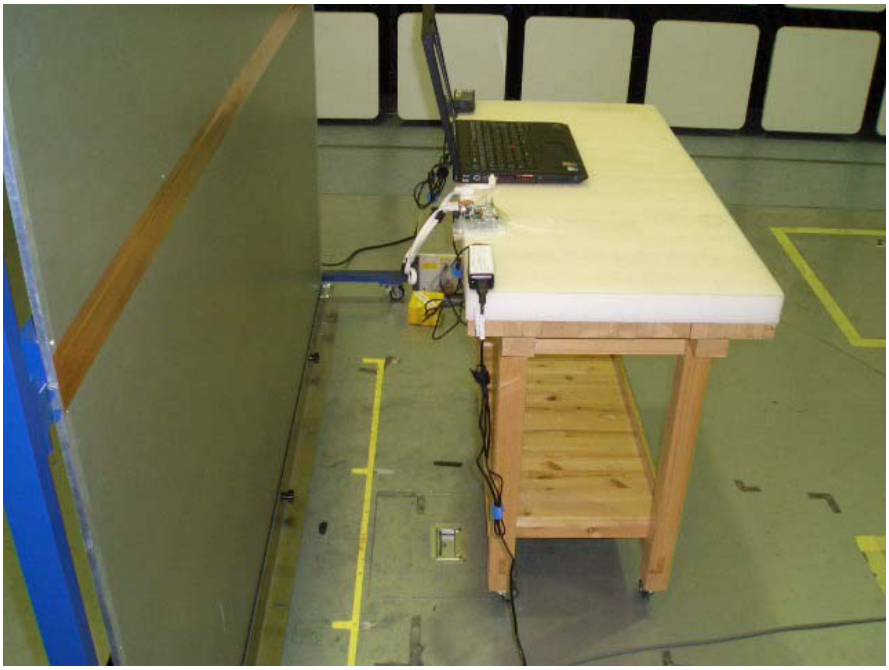
Test data : APPENDIX 3
Test result : Pass

APPENDIX 1: Photographs of test setup

Conducted Emission

Front

Rear



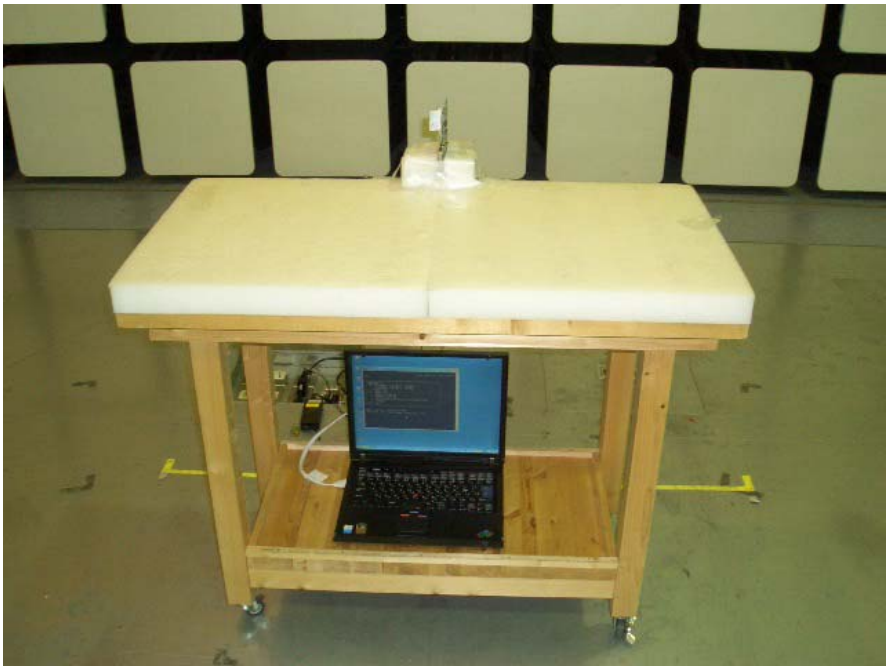
Spurious Emission (Radiated:below 1GHz)

Front

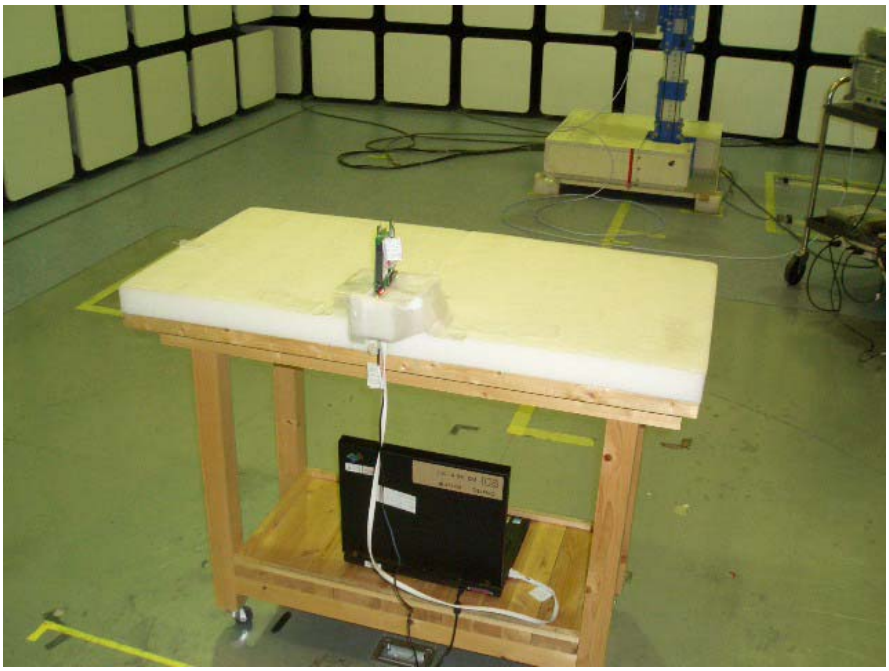
Rear

Spurious Emission (Radiated:above 1GHz)

Front



Rear

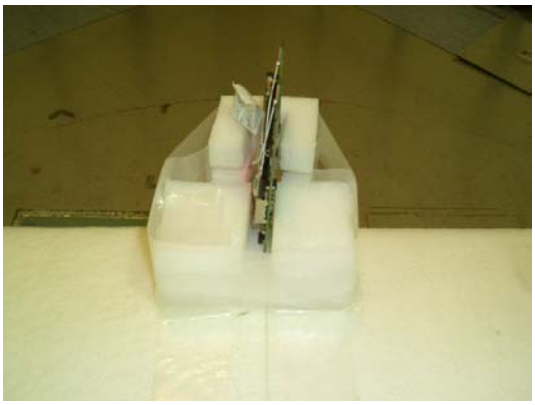


Worst Case Position (X-axis:Horizontal / Z-axis:Vertical)

X-axis

Y-axis

Z-axis



APPENDIX 3: Data of EMI test

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

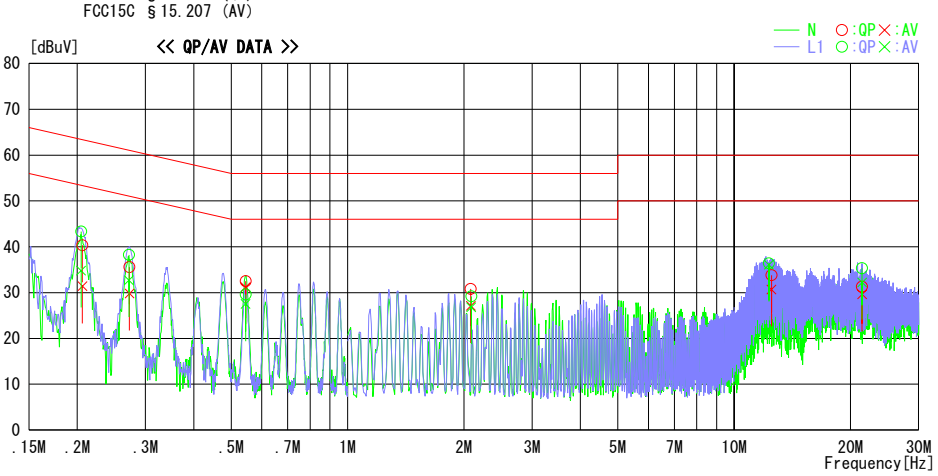
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2006/02/26 13:44:55

Applicant : CONTEC CO., LTD
Kind of EUT : Wireless LAN MiniPCI Card
Model No. : FX-DS540-MPCI6
Serial No. : C09A54400135C01

Report No. : 26FE0180-HO
Power : DC 3.3V(AC120V/60Hz)
Temp./Humi. : 26deg.C / 36%
Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11a 5180MHz

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



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase
	QP	AV	Factor	QP	AV	QP	AV	QP	AV	
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]	
0.20610	40.2	31.3	0.1	40.3	31.4	63.4	53.4	23.1	22.0	N
0.27290	35.5	29.7	0.1	35.6	29.8	61.0	51.0	25.4	21.2	N
0.54525	32.3	31.0	0.2	32.5	31.2	56.0	46.0	23.5	14.8	N
2.08350	30.4	26.7	0.4	30.8	27.1	56.0	46.0	25.2	18.9	N
12.48006	32.6	29.5	1.2	33.8	30.7	60.0	50.0	26.2	19.3	N
21.40026	29.5	27.8	1.8	31.3	29.6	60.0	50.0	28.7	20.4	N
0.20460	43.2	34.7	0.1	43.3	34.8	63.4	53.4	20.1	18.6	L1
0.27200	38.1	32.6	0.1	38.2	32.7	61.1	51.1	22.9	18.4	L1
0.54525	29.4	27.3	0.2	29.6	27.5	56.0	46.0	26.4	18.5	L1
2.08900	28.8	26.4	0.4	29.2	26.8	56.0	46.0	26.8	19.2	L1
12.29160	35.2	34.9	1.2	36.4	36.1	60.0	50.0	23.6	13.9	L1
21.40026	33.5	30.4	1.8	35.3	32.2	60.0	50.0	24.7	17.8	L1

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.

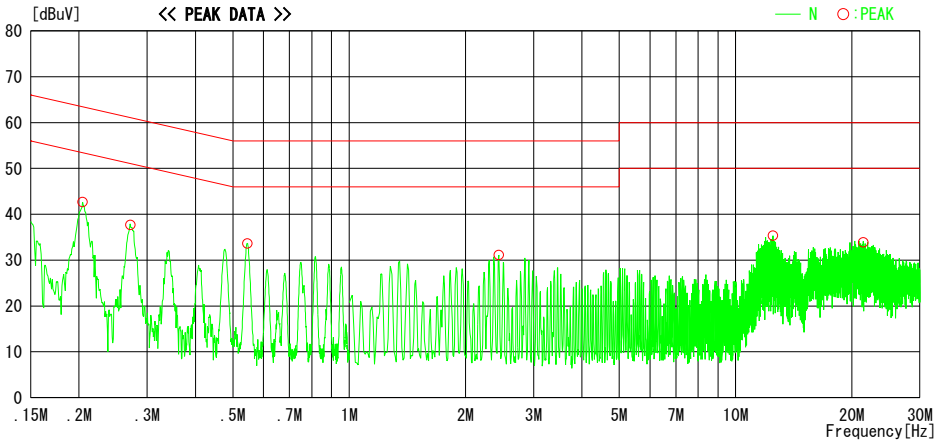
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2006/02/26 13:44:55

Applicant	: CONTEC CO ., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V(AC120V/60Hz)
Model No.	: FX-DS540-MPCI6	Temp./Humi.	: 26deg.C / 36%
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks : Transmitting 11a 5180MHz

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



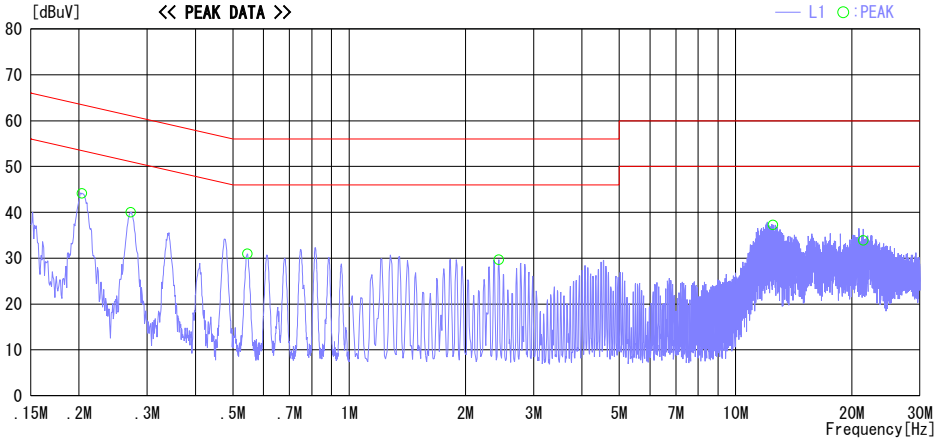


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

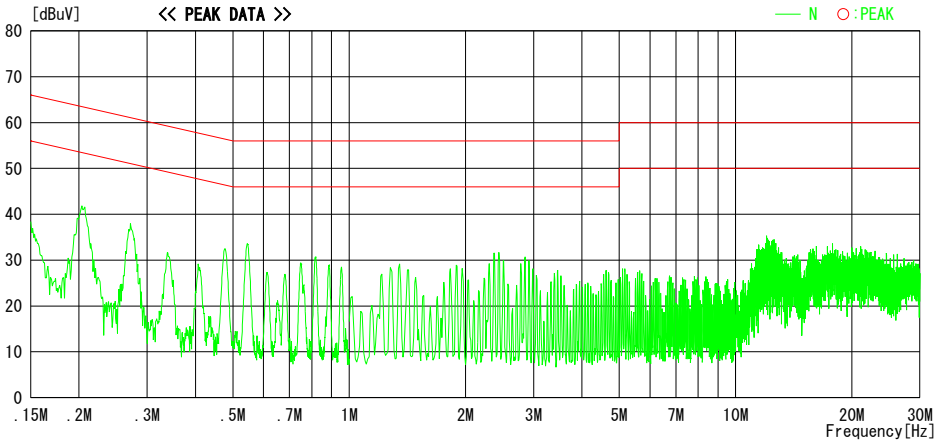
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2006/02/26 13:54:43

Applicant	: CONTEC CO ., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V(AC120V/60Hz)
Model No.	: FX-DS540-MPCI6	Temp./Humi.	: 26deg.C / 36%
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks : Transmitting 11a 5260MHz

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



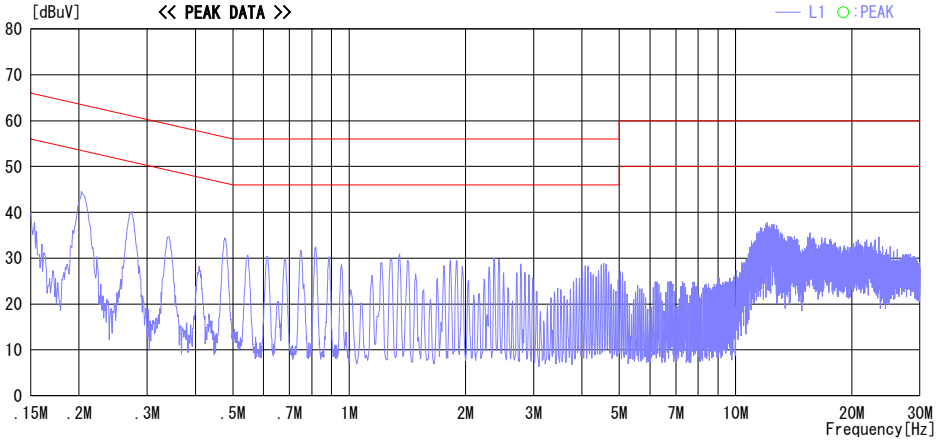


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

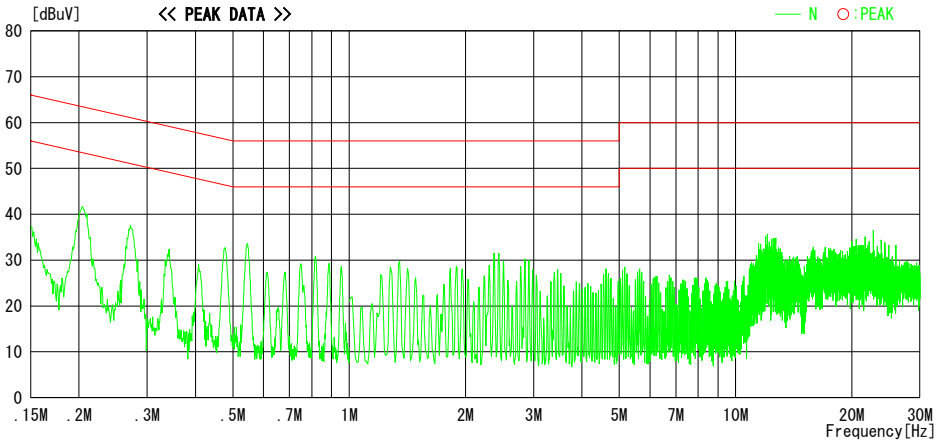
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2006/02/26 13:49:42

Applicant	: CONTEC CO ., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V(AC120V/60Hz)
Model No.	: FX-DS540-MPCI6	Temp./Humi.	: 26deg.C / 36%
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks : Transmitting 11a 5320MHz

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



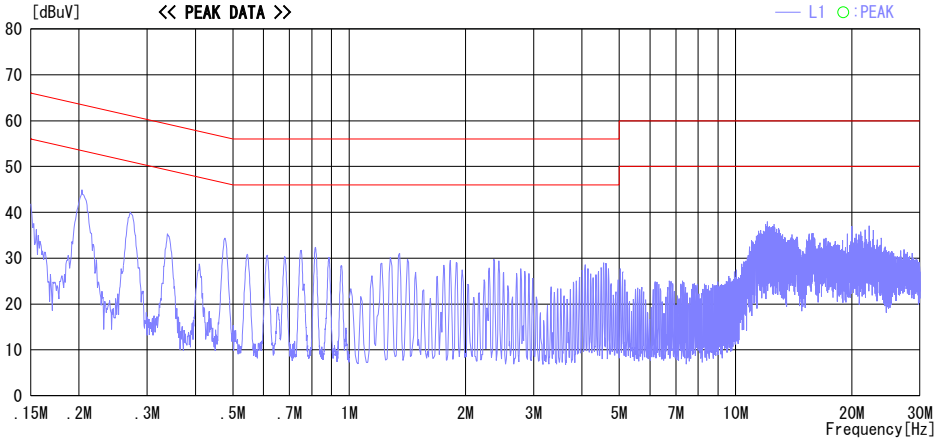


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

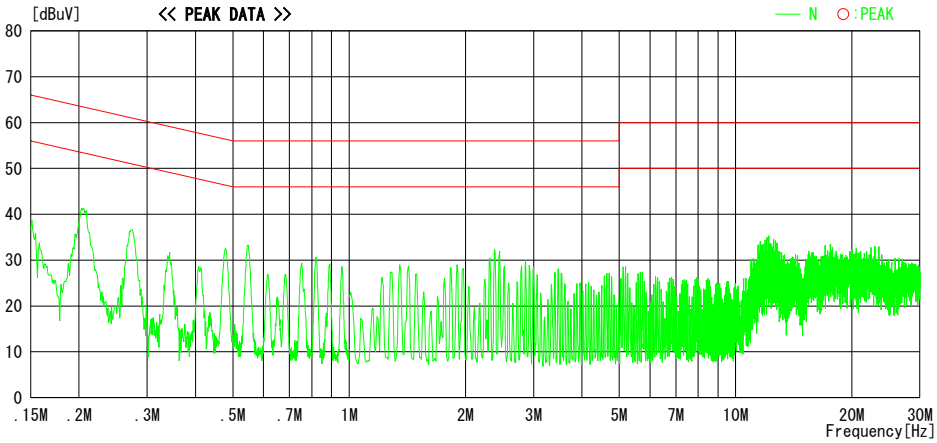
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2006/02/26 14:18:35

Applicant	: CONTEC CO ., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V(AC120V/60Hz)
Model No.	: FX-DS540-MPCI6	Temp./Humi.	: 26deg.C / 36%
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks : Receiving 11a 5260MHz

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



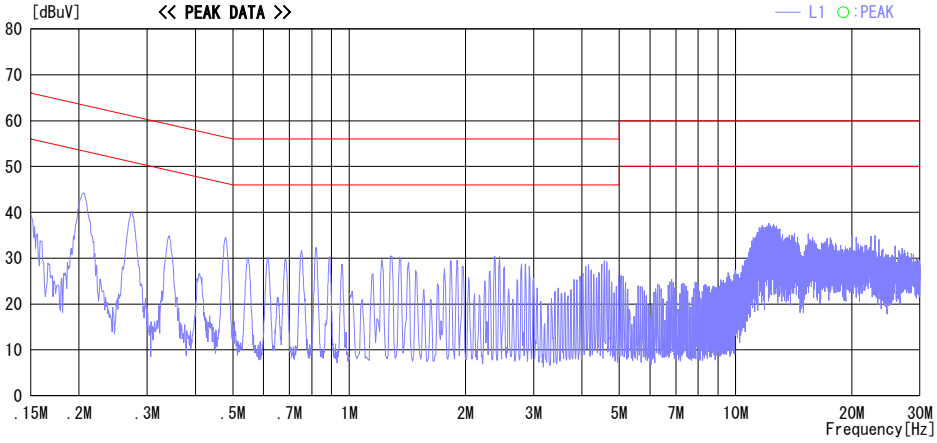


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

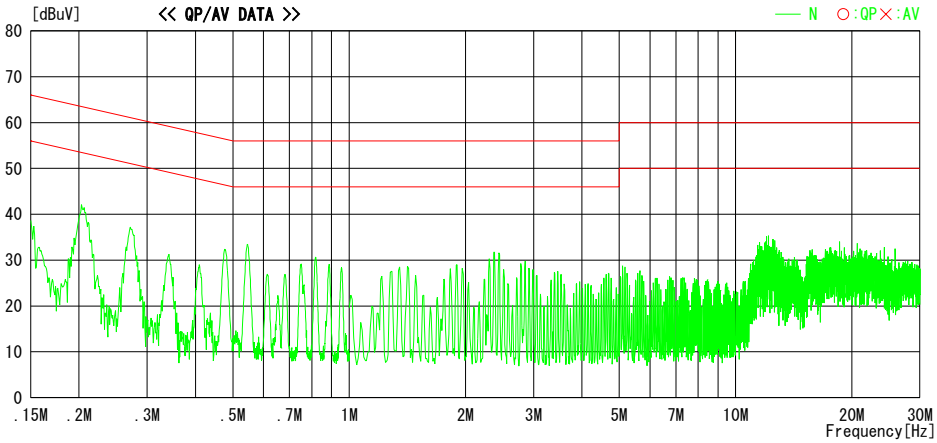
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2006/02/26 13:59:58

Applicant	: CONTEC CO ., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V(AC120V/60Hz)
Model No.	: FX-DS540-MPCI6	Temp./Humi.	: 26deg.C / 36%
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks : Transmitting 11a 5745MHz

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



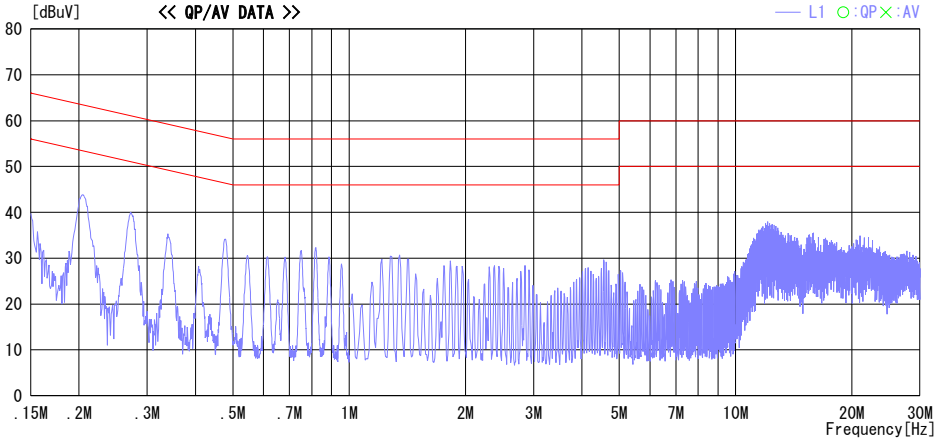


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

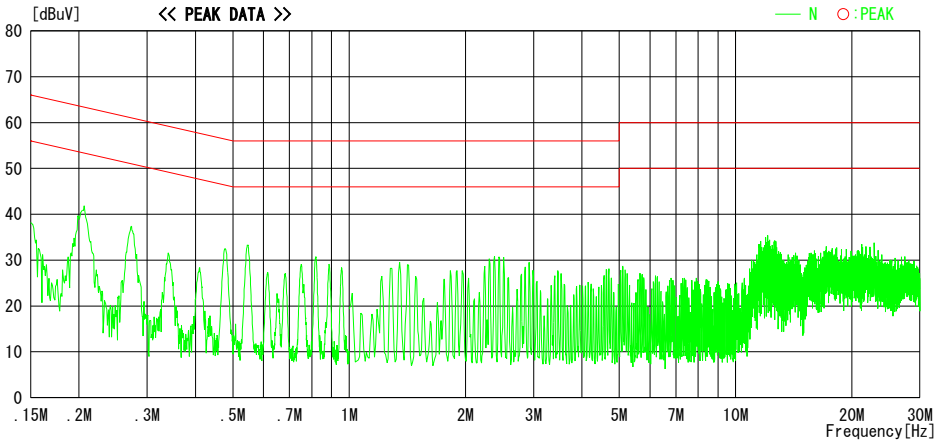
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2006/02/26 14:05:05

Applicant	: CONTEC CO ., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V(AC120V/60Hz)
Model No.	: FX-DS540-MPCI6	Temp./Humi.	: 26deg.C / 36%
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks : Transmitting 11a 5765MHz

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



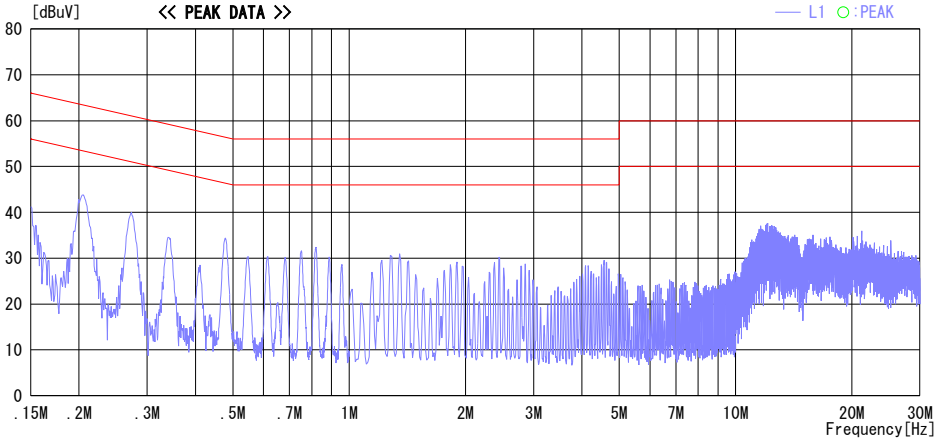


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

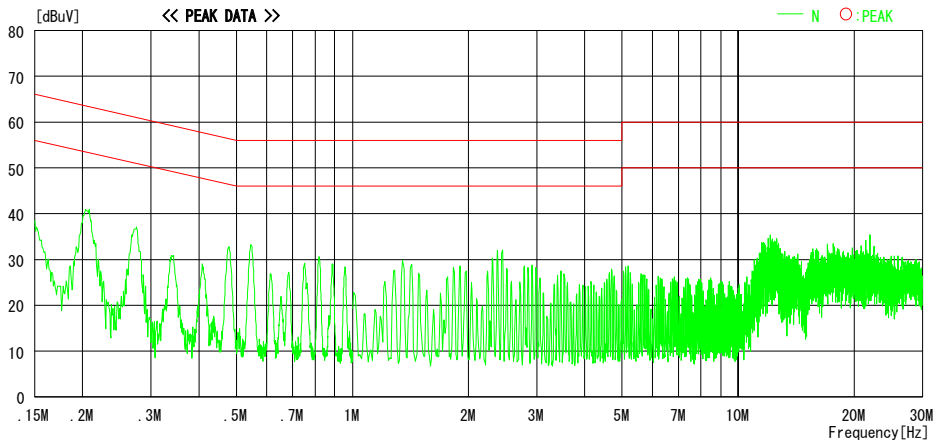
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2006/02/26 14:11:55

Applicant	: CONTEC CO., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V(AC120V/60Hz)
Model No.	: FX-DS540-MPCI6	Temp./Humi.	: 26deg.C / 36%
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks : Transmitting 11a 5805MHz

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



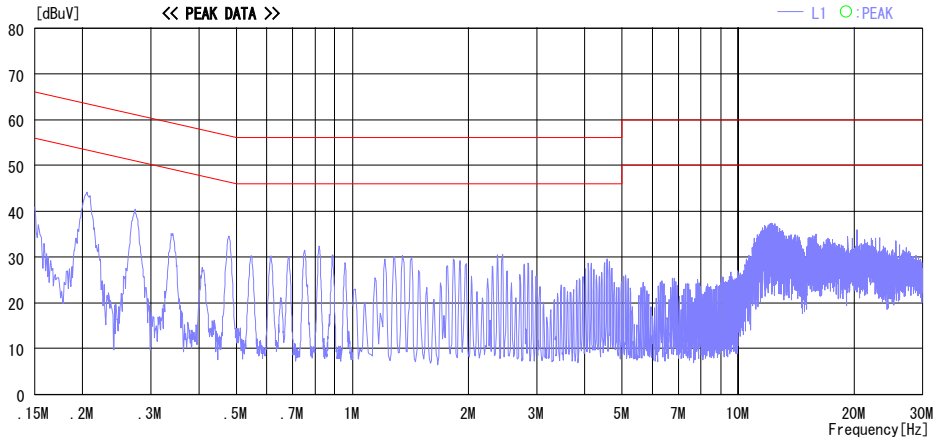


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

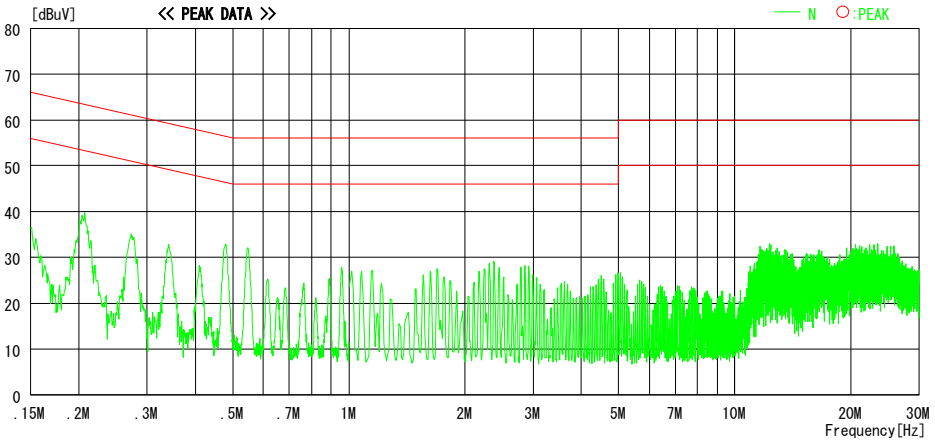
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2006/02/26 14:38:28

Applicant	: CONTEC CO., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V(AC120V/60Hz)
Model No.	: FX-DS540-MPCI6	Temp./Humi.	: 26deg.C / 36%
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks : Receiving 11a 5765MHz

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



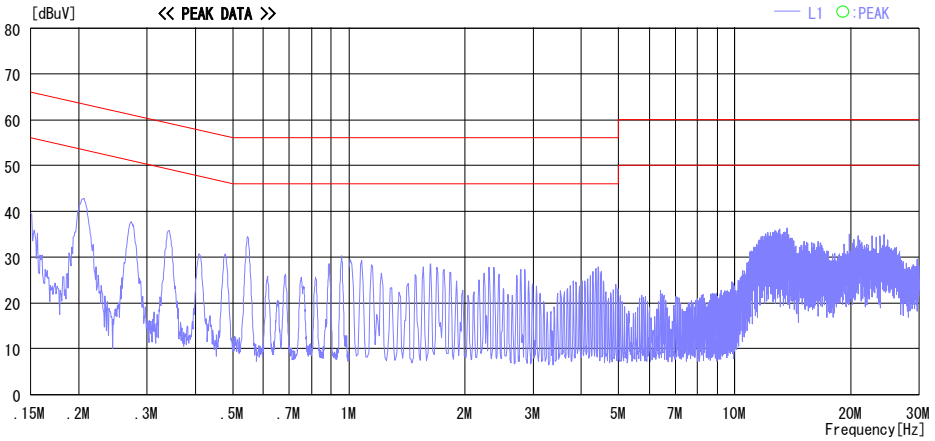


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

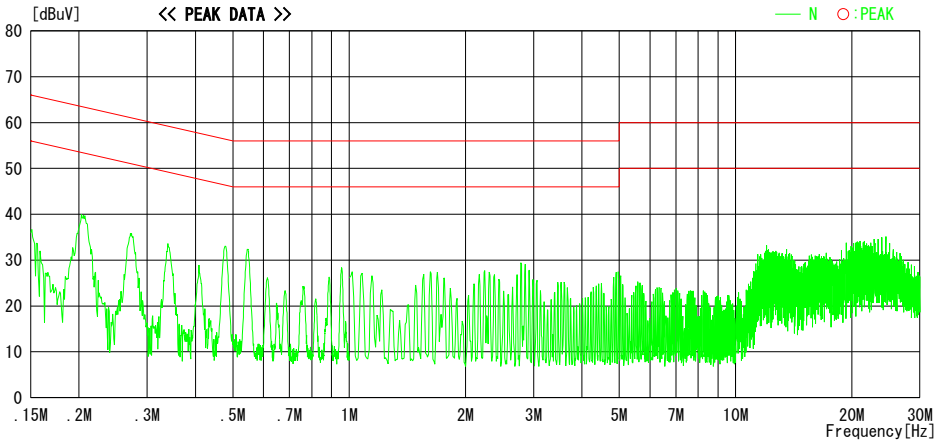
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2006/02/26 13:32:36

Applicant	: CONTEC CO ., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V(AC120V/60Hz)
Model No.	: FX-DS540-MPCI6	Temp./Humi.	: 26deg.C / 36%
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks : Standby

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



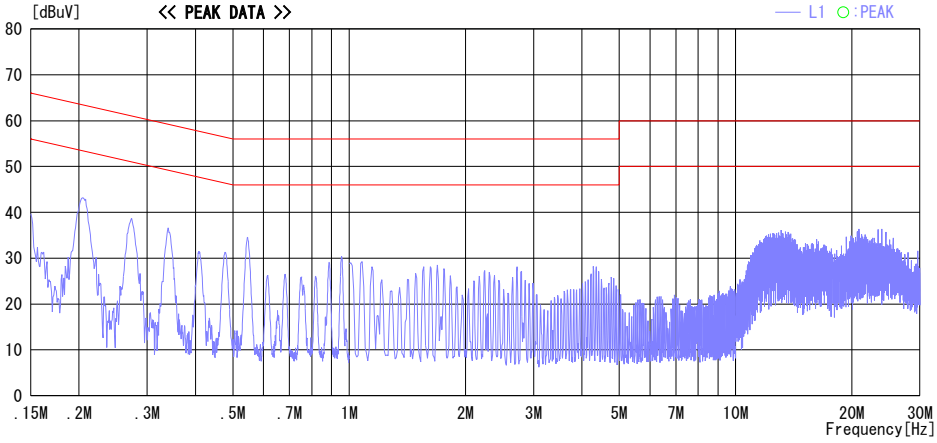


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

26dB Emission Bandwidth

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

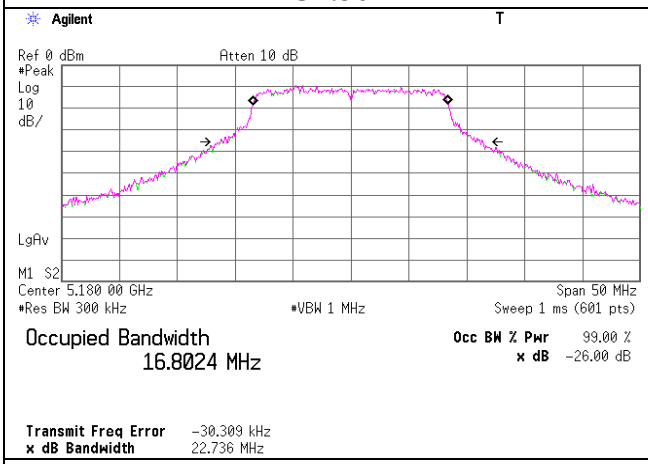
Company	: CONTEC CO., LTD.	REPORT NO	: 26FE0180-HO
Equipment	: Wireless LAN MiniPCI Card	REGULATION	: FCC 15.407(a)(1)(2)(3)
Model	: FX-DS540-MPCI6	TEST DISTANCE	: -
Sample No.	: C09A5440017CC01	DATE	: 02/22/2006
Power	: DC3.3V	TEMPERATURE	: 24deg.C
Mode	: Tx IEEE 802.11a	HUMIDITY	: 33%
Antenna	: B	ENGINEER	: Hiroka Umeyama
Rate	: 24Mbps		

Ch	Freq. [MHz]	26dB Bandwidth [MHz]	Limit [MHz]
36	5180.0	22.736	-
52	5260.0	23.157	-
64	5320.0	23.343	-
149	5745.0	22.587	-
153	5765.0	23.018	-
161	5805.0	22.294	-

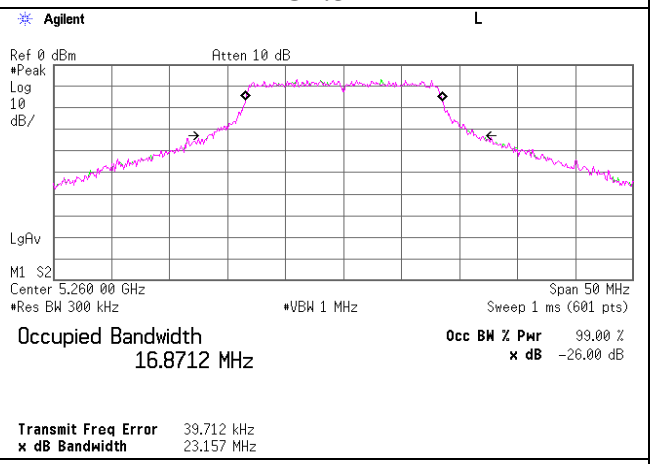
26dB Emission Bandwidth

24Mbps Antenna:B

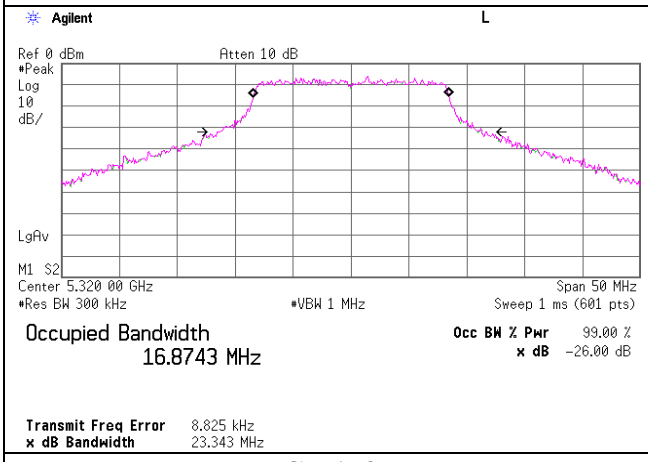
Ch:36



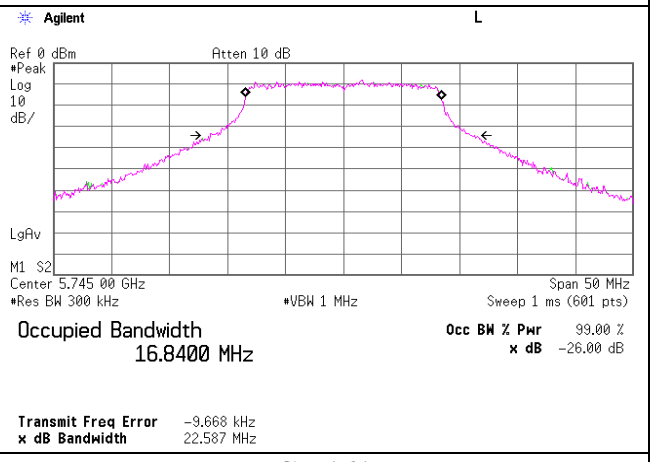
Ch:52



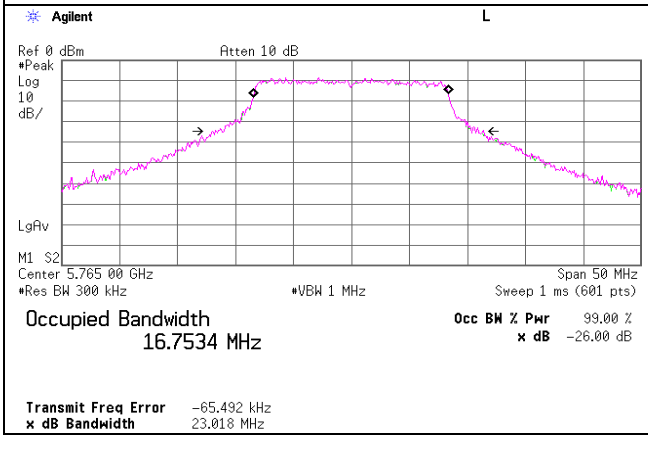
Ch:64



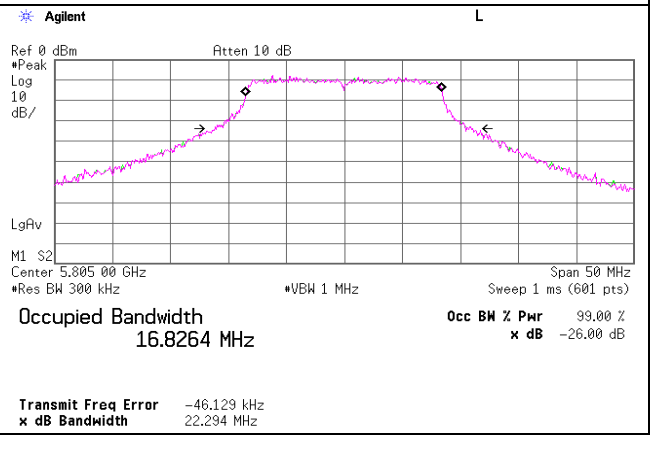
Ch:149



Ch:153



Ch:161



Peak Transmit Power

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

Company	: CONTEC CO., LTD.	REPORT NO	: 26FE0180-HO
Equipment	: Wireless LAN MiniPCI Card	REGULATION	: FCC 15.407(a)(1)(2)(3)
Model	: FX-DS540-MPCI6	TEST DISTANCE	: -
Sample No.	: C09A5440017CC01	DATE	: 02/14/2006
Power	: DC3.3V	TEMPERATURE	: 22deg.C
Mode	: Tx IEEE 802.11a	HUMIDITY	: 30%
	: 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	-5.51	3.40	10.00	7.89	17.00	9.11
52	5260.0	-3.54	3.40	10.00	9.86	17.00	7.14
64	5320.0	-2.90	3.40	10.00	10.50	24.00	13.50
149	5745.0	-5.06	3.40	10.00	8.34	30.00	21.66
153	5765.0	-5.34	3.40	10.00	8.06	30.00	21.94
161	5805.0	-5.95	3.40	10.00	7.45	30.00	22.55

ANT:A 24Mbps

Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
36	5180.0	-1.67	3.40	10.00	11.73	17.00	5.27
52	5260.0	0.19	3.40	10.00	13.59	17.00	3.41
64	5320.0	0.59	3.40	10.00	13.99	24.00	10.01
149	5745.0	-0.82	3.40	10.00	12.58	30.00	17.42
153	5765.0	-1.07	3.40	10.00	12.33	30.00	17.67
161	5805.0	-1.85	3.40	10.00	11.55	30.00	18.45

ANT:B 54Mbps

Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
36	5180.0	-5.37	3.40	10.00	8.03	17.00	8.97
52	5260.0	-3.46	3.40	10.00	9.94	17.00	7.06
64	5320.0	-2.15	3.40	10.00	11.25	24.00	12.75
149	5745.0	-4.70	3.40	10.00	8.70	30.00	21.30
153	5765.0	-5.61	3.40	10.00	7.79	30.00	22.21
161	5805.0	-4.93	3.40	10.00	8.47	30.00	21.53

ANT:B 24Mbps

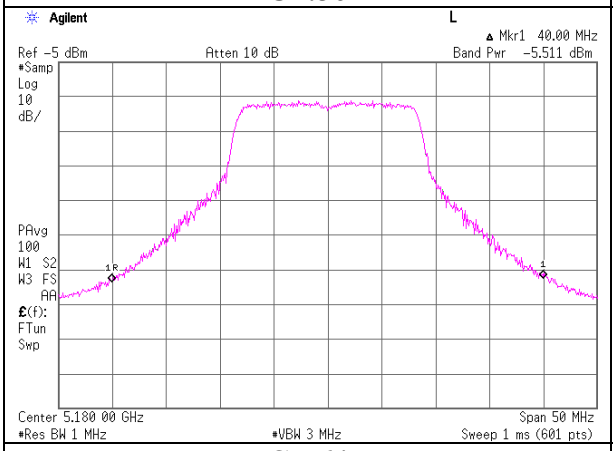
Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
36	5180.0	-0.96	3.40	10.00	12.44	17.00	4.56
52	5260.0	0.68	3.40	10.00	14.08	17.00	2.92
64	5320.0	0.63	3.40	10.00	14.03	24.00	9.97
149	5745.0	-0.51	3.40	10.00	12.89	30.00	17.11
153	5765.0	-0.82	3.40	10.00	12.58	30.00	17.42
161	5805.0	-1.14	3.40	10.00	12.26	30.00	17.74

Sample Calculation:
Result = Reading + Cable Loss + Attenuator
*Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.

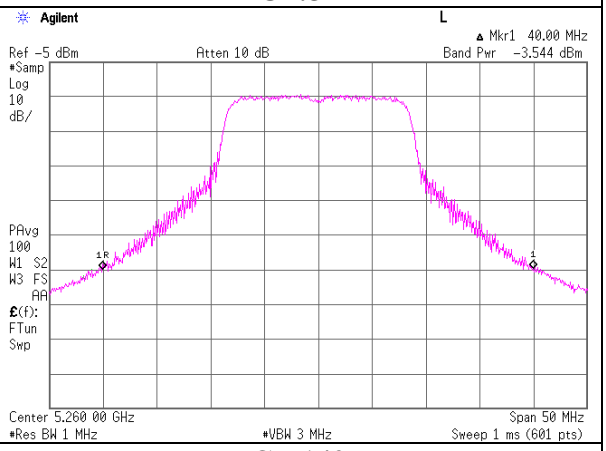
Peak Transmit Power

ANT:A, 54Mbps

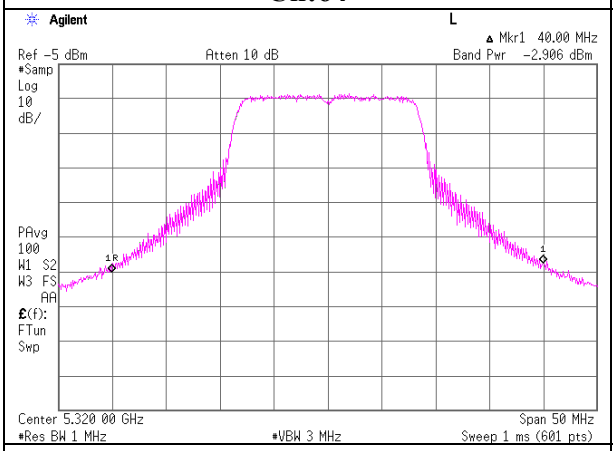
Ch:36



Ch:52



Ch:64



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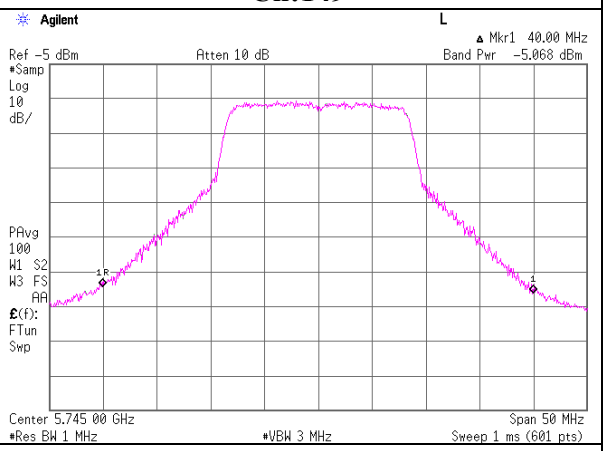
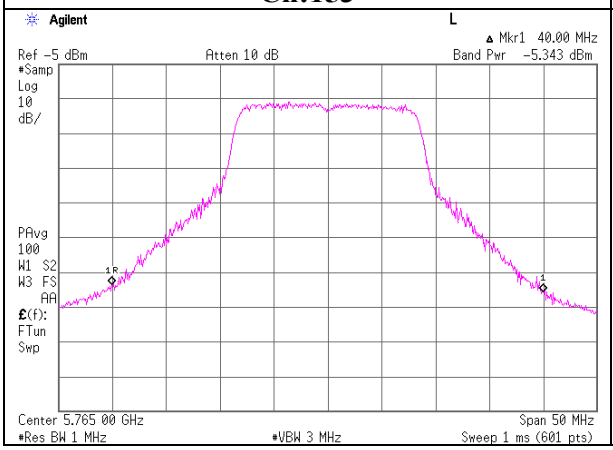


Ch:153



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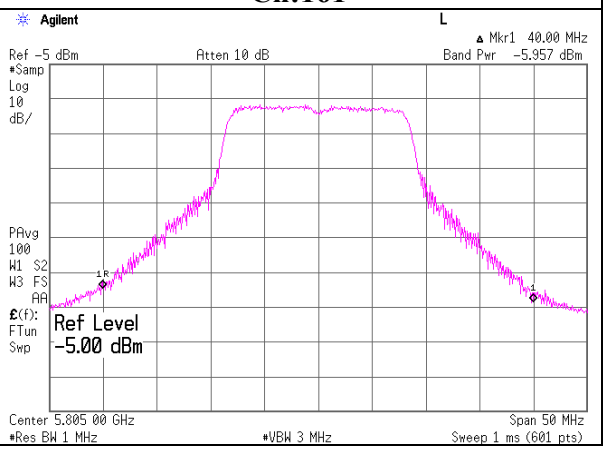
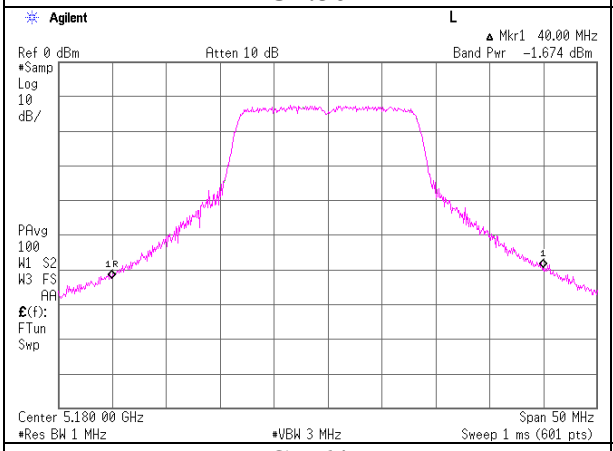


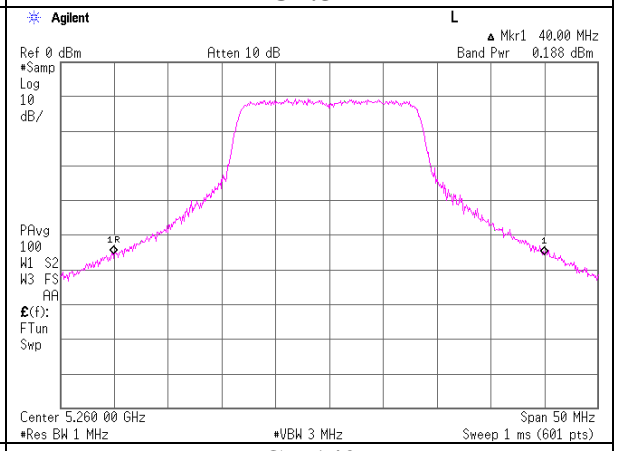
Peak Transmit Power

ANT:A, 24Mbps

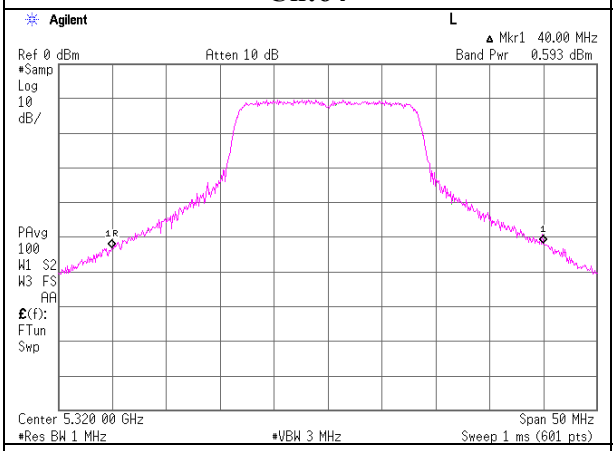
Ch:36



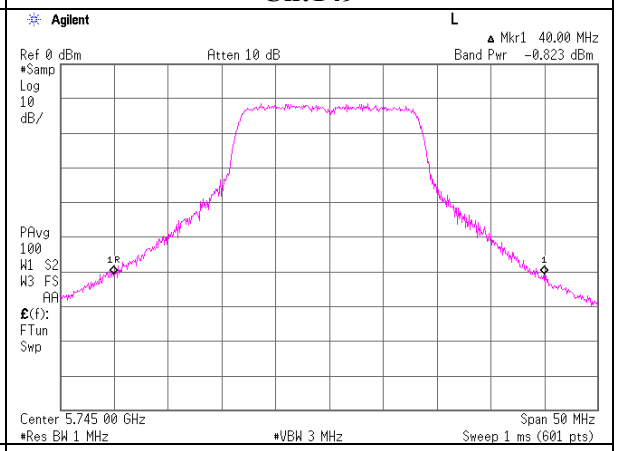
Ch:52



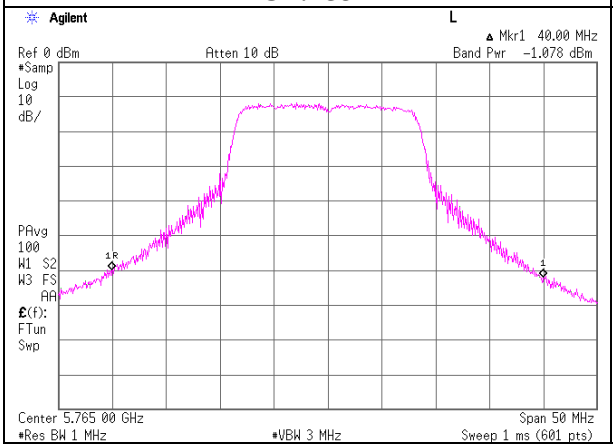
Ch:64



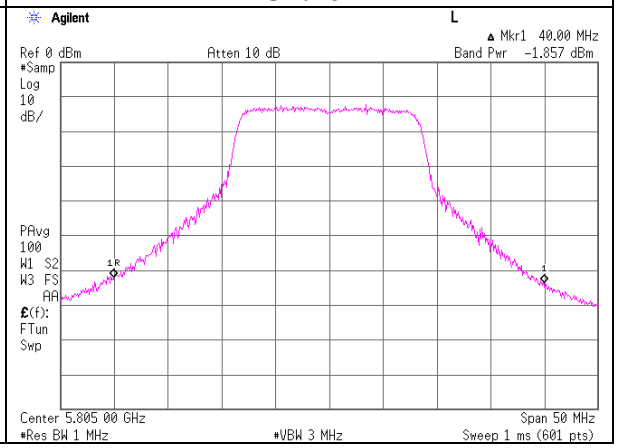
Ch:149



Ch:153



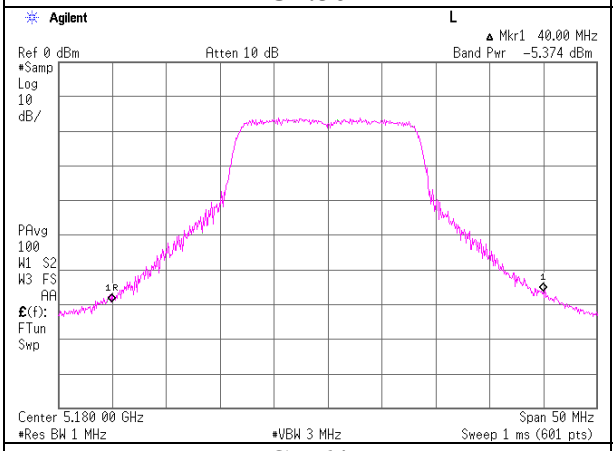
Ch:161



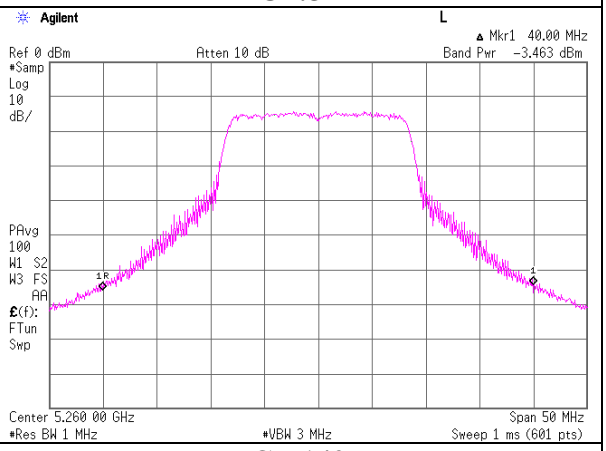
Peak Transmit Power

ANT:B, 54Mbps

Ch:36



Ch:52



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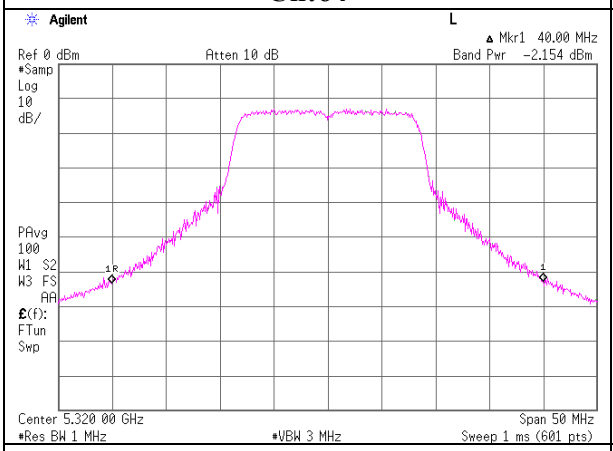
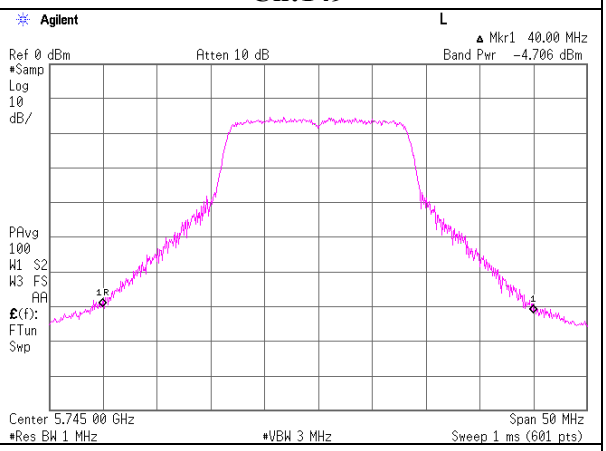
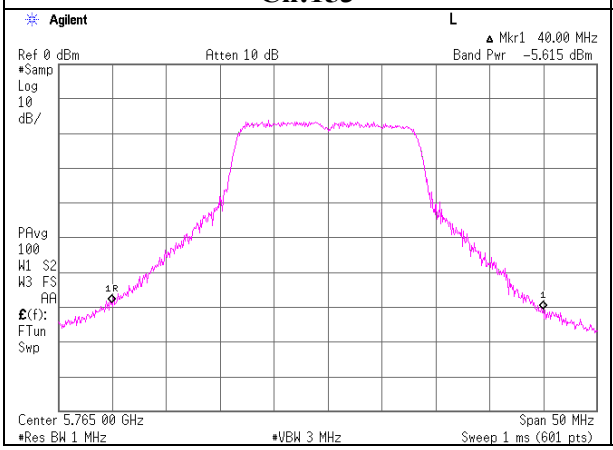


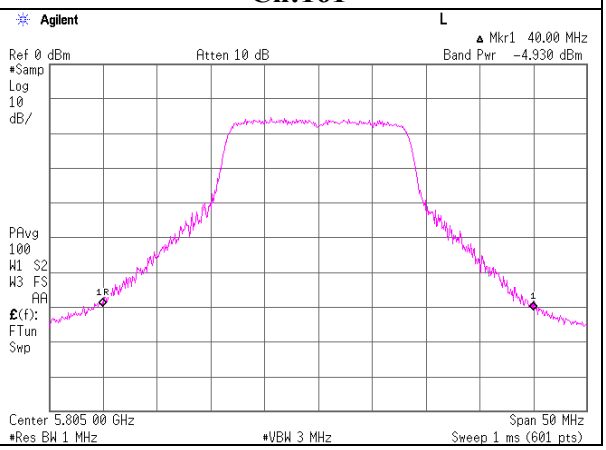
Ch:149



Ch:153



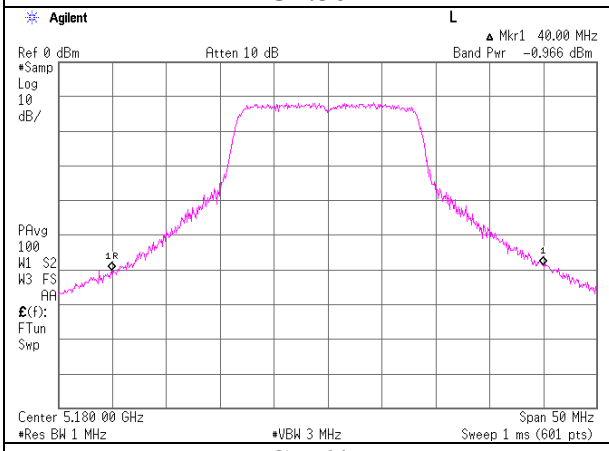
Ch:161



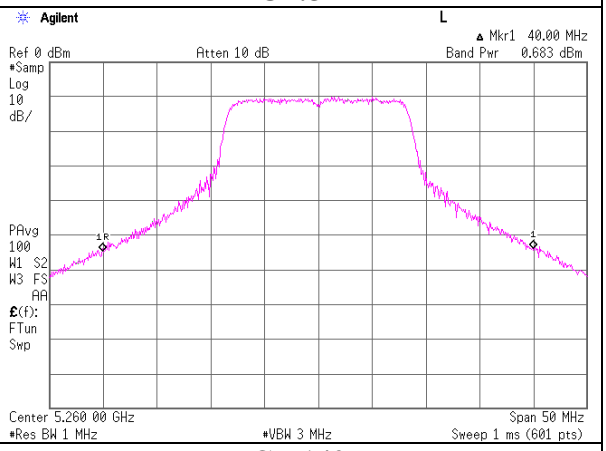
Peak Transmit Power

ANT:B, 24Mbps

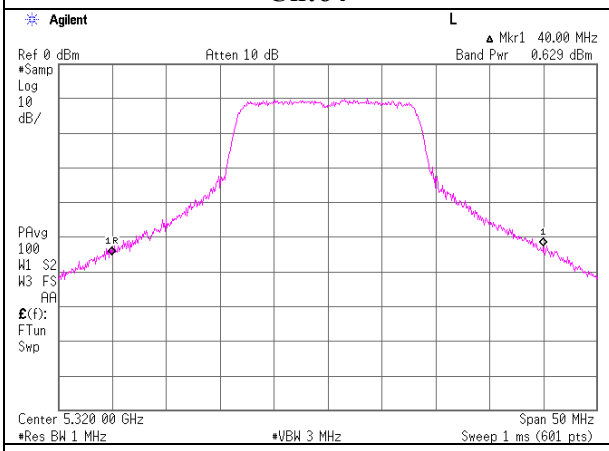
Ch:36



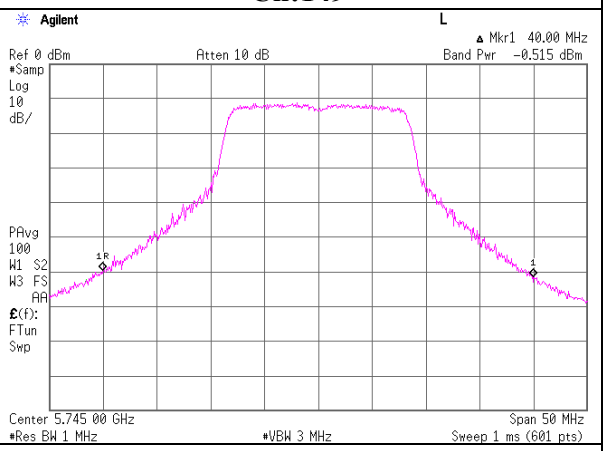
Ch:52



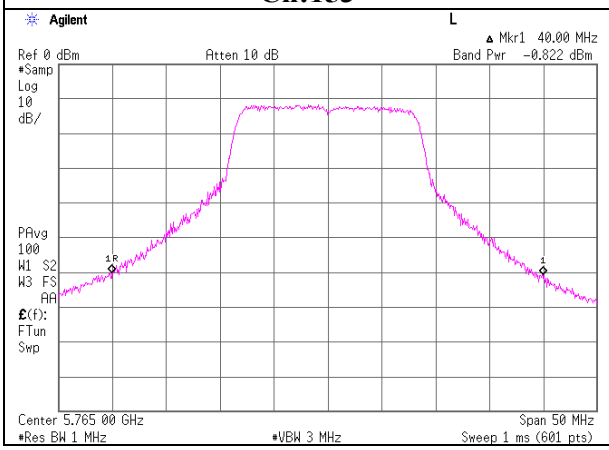
Ch:64



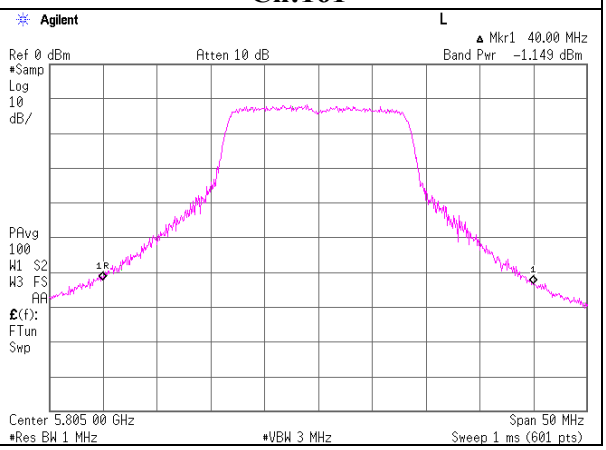
Ch:149



Ch:153



Ch:161



Radiated Spurious Emission (below 1GHz)

DATA OF RADIATED EMISSION TEST

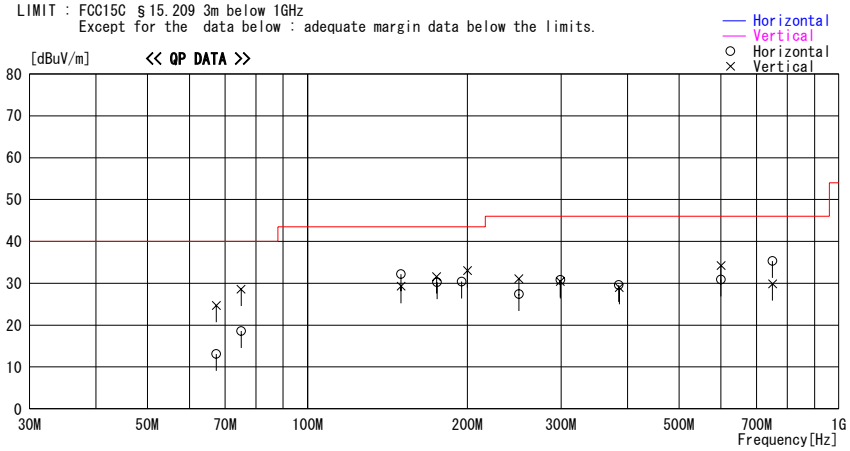
UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2006/02/24 13:30:51

Applicant : CONTEC CO., LTD
Kind of EUT : Wireless LAN MiniPCI Card
Model No. : FX-DS540-MPCI6
Serial No. : C09A54400135C01

Report No. : 26FE0180-HO
Power : DC 3.3V
Temp./ Humi. : 25 deg.C. / 30 %
Operator : Hiroka Umeyama

Mode / Remarks : Tx 11a 5180MHz/18Mbps/TX100/PN9/Ant-A /EUT-max-axis

LIMIT : FCC15C §15.209 3m below 1GHz
Except for the data below : adequate margin data below the limits.



Frequency [MHz]	Reading [dBuV]	DET	Antenna Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
67.387	28.5	QP	7.0	-22.4	13.1	269	300	Hori.	40.0	26.9
67.392	40.1	QP	7.0	-22.4	24.7	251	100	Vert.	40.0	15.3
75.008	33.9	QP	6.4	-21.7	18.6	268	220	Hori.	40.0	21.4
75.008	43.9	QP	6.4	-21.7	28.6	239	100	Vert.	40.0	11.4
150.008	38.7	QP	14.8	-21.3	32.2	101	253	Hori.	43.5	11.3
150.008	35.8	QP	14.8	-21.3	29.3	79	100	Vert.	43.5	14.2
175.011	36.7	QP	15.8	-20.9	31.6	0	100	Vert.	43.5	11.9
175.260	35.3	QP	15.8	-20.9	30.2	105	206	Hori.	43.5	13.3
200.007	36.8	QP	16.6	-20.4	33.0	82	100	Vert.	43.5	10.5
195.176	34.5	QP	16.5	-20.6	30.4	103	152	Hori.	43.5	13.1
250.011	30.5	QP	17.1	-20.2	27.4	326	100	Hori.	46.0	18.6
250.011	34.2	QP	17.1	-20.2	31.1	260	100	Vert.	46.0	14.9
299.119	30.3	QP	20.1	-19.6	30.8	280	211	Hori.	46.0	15.2
299.120	29.9	QP	20.1	-19.6	30.4	116	100	Vert.	46.0	15.6
385.366	32.2	QP	17.3	-19.9	29.6	303	100	Hori.	46.0	16.4
386.366	31.5	QP	17.4	-19.9	29.0	125	100	Vert.	46.0	17.0
600.000	31.2	QP	19.2	-19.5	30.9	60	100	Hori.	46.0	15.1
600.000	34.5	QP	19.2	-19.5	34.2	78	150	Vert.	46.0	11.8
750.000	26.4	QP	21.0	-17.5	29.9	230	100	Vert.	46.0	16.1
750.108	31.8	QP	21.0	-17.5	35.3	222	114	Hori.	46.0	10.7

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)

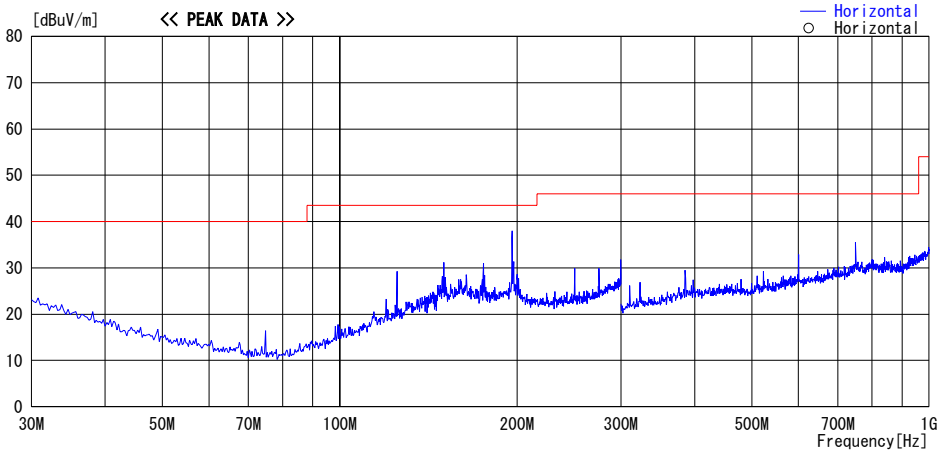
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2006/02/24 13:34:37

Applicant	: CONTEC CO., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V
Model No.	: FX-DS540-MPCI6	Temp./ Humi.	: 25 deg.C. / 30 %
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks : Tx 11a 5180MHz/18Mbps/TX100/PN9/Ant-A /EUT-max-axis

LIMIT : FCC15C §15.209 3m below 1GHz
Except for the data below : adequate margin data below the limits.



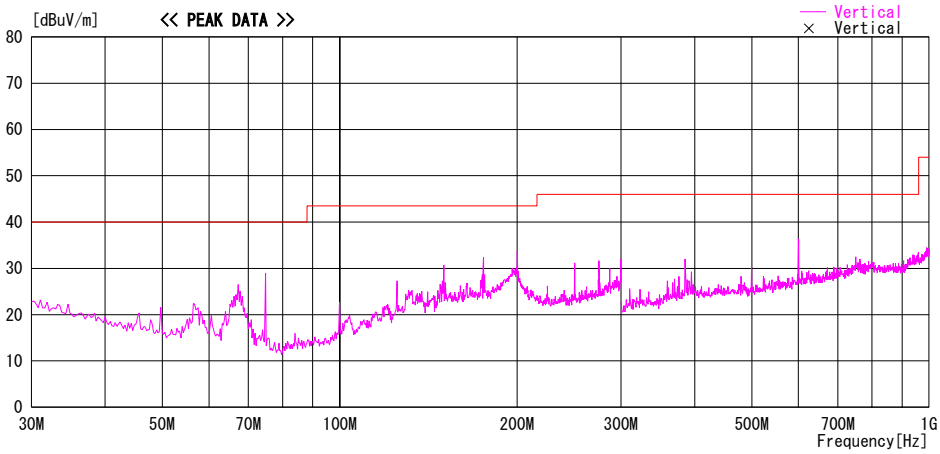


CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

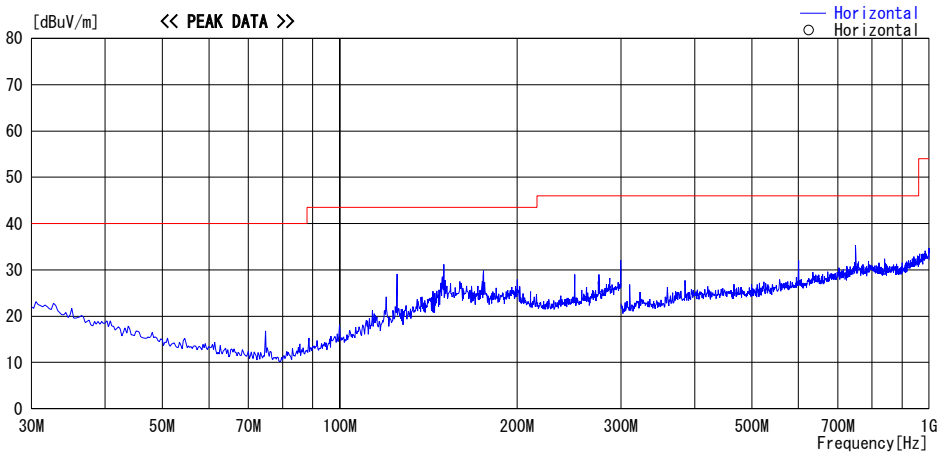
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2006/02/24 13:58:42

Applicant	: CONTEC CO., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V
Model No.	: FX-DS540-MPCI6	Temp./ Humi.	: 25 deg.C. / 30 %
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks : Tx 11a 5260MHz/18Mbps/TX100/PN9/Ant-A /EUT-max-axis

LIMIT : FCC15C §15.209 3m below 1GHz
Except for the data below : adequate margin data below the limits.



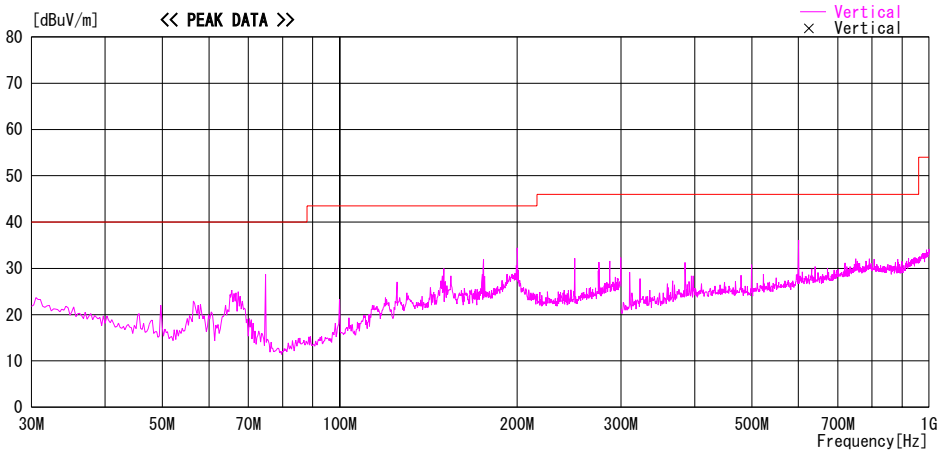


CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

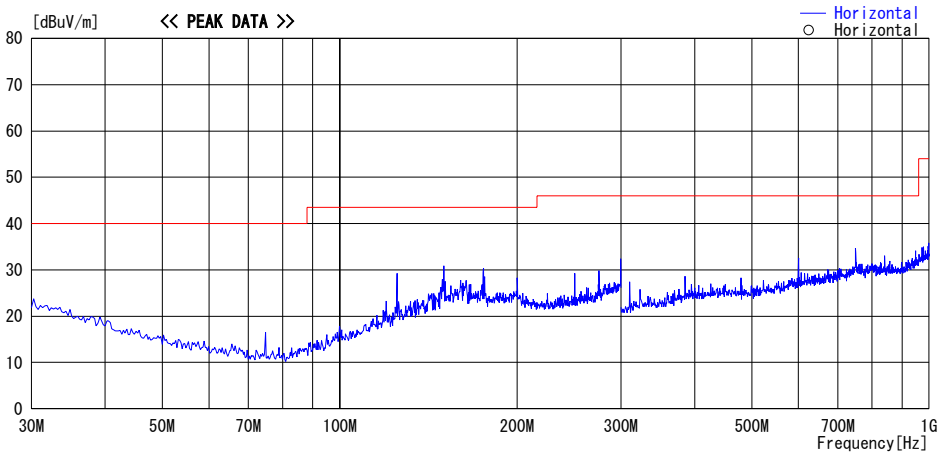
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2006/02/24 14:11:15

Applicant	: CONTEC CO., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V
Model No.	: FX-DS540-MPCI6	Temp./ Humi.	: 25 deg.C. / 30 %
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks : Tx 11a 5320MHz/18Mbps/TX100/PN9/Ant-A /EUT-max-axis

LIMIT : FCC15C §15.209 3m below 1GHz
Except for the data below : adequate margin data below the limits.



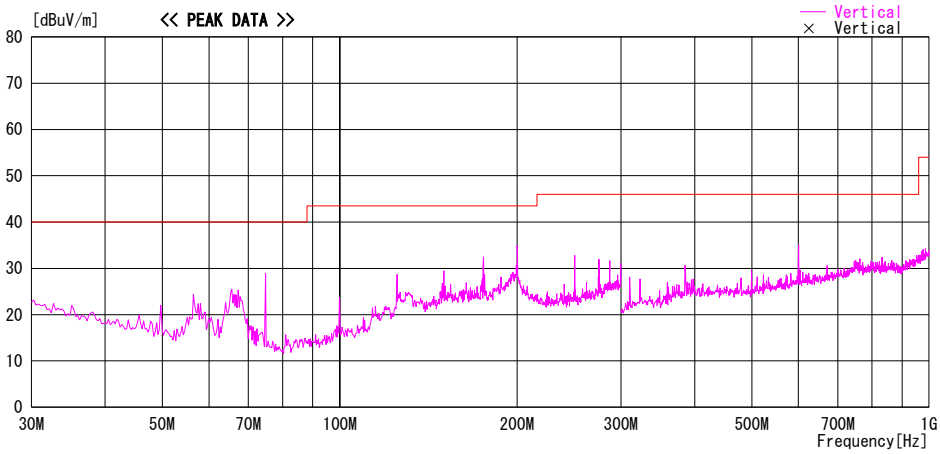


CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

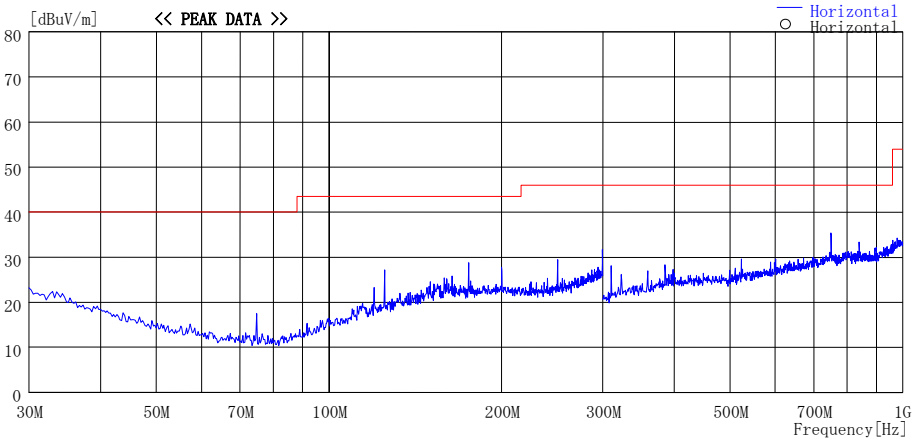
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2006/02/24 15:19:10

Applicant	: CONTEC CO., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V
Model No.	: FX-DS540-MPCI6	Temp./ Humi.	: 25 deg.C. / 30 %
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks: Rx 11a 5260MHz/18Mbps/TX100/PN9/Ant-A /EUT-max-axis

LIMIT : FCC Part15B / RSS-210 / RSS-Gen 3m
Except for the data below : adequate margin data below the limits.



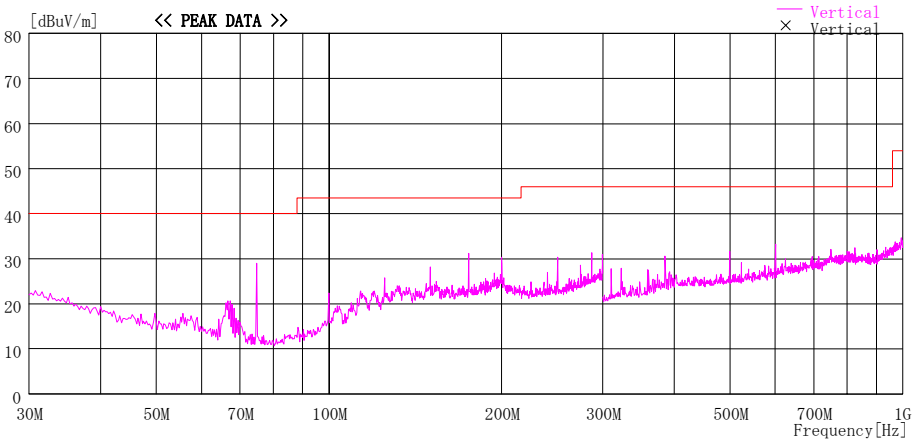


CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

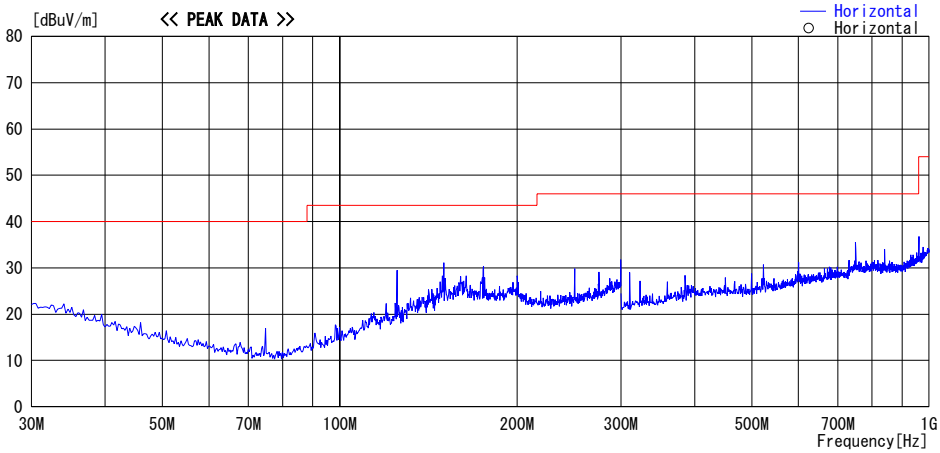
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2006/02/24 14:39:41

Applicant	: CONTEC CO., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V
Model No.	: FX-DS540-MPCI6	Temp./ Humi.	: 25 deg.C. / 30 %
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks : Tx 11a 5745MHz/18Mbps/TX100/PN9/Ant-A /EUT-max-axis

LIMIT : FCC15C §15.209 3m below 1GHz
Except for the data below : adequate margin data below the limits.



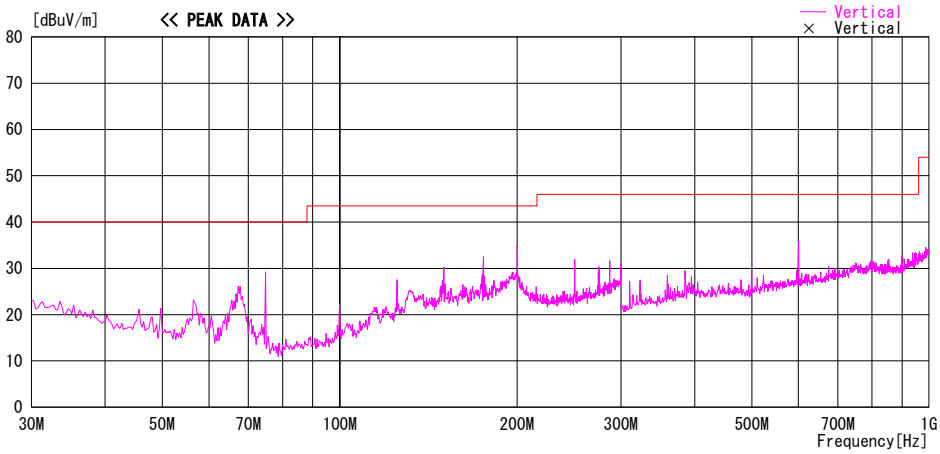


CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

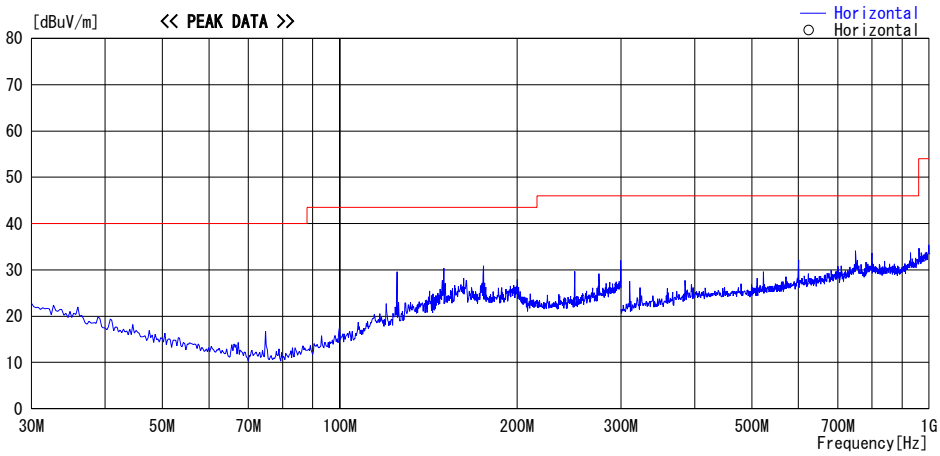
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2006/02/24 14:52:51

Applicant	: CONTEC CO., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V
Model No.	: FX-DS540-MPCI6	Temp./ Humi.	: 25 deg.C. / 30 %
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks : Tx 11a 5765MHz/18Mbps/TX100/PN9/Ant-A /EUT-max-axis

LIMIT : FCC15C §15.209 3m below 1GHz
Except for the data below : adequate margin data below the limits.



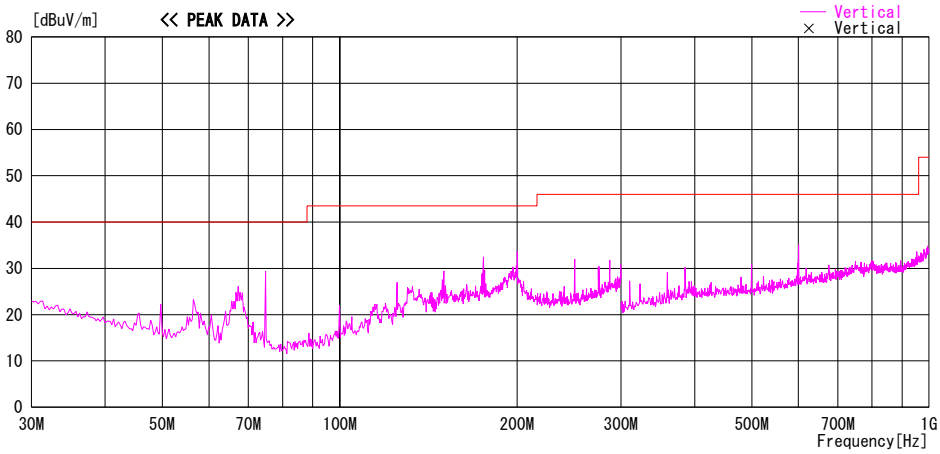


CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

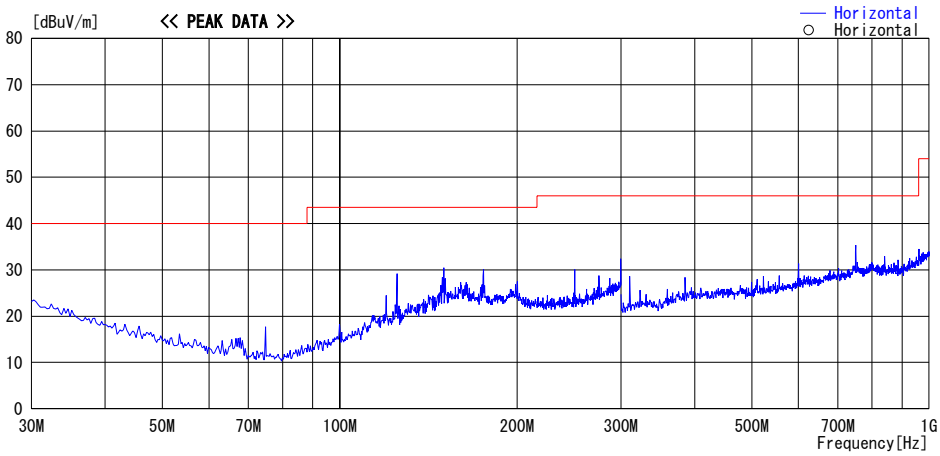
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2006/02/24 15:08:26

Applicant	: CONTEC CO., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V
Model No.	: FX-DS540-MPCI6	Temp./ Humi.	: 25 deg.C. / 30 %
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks : Tx 11a 5805MHz/18Mbps/TX100/PN9/Ant-A /EUT-max-axis

LIMIT : FCC15C §15.209 3m below 1GHz
Except for the data below : adequate margin data below the limits.



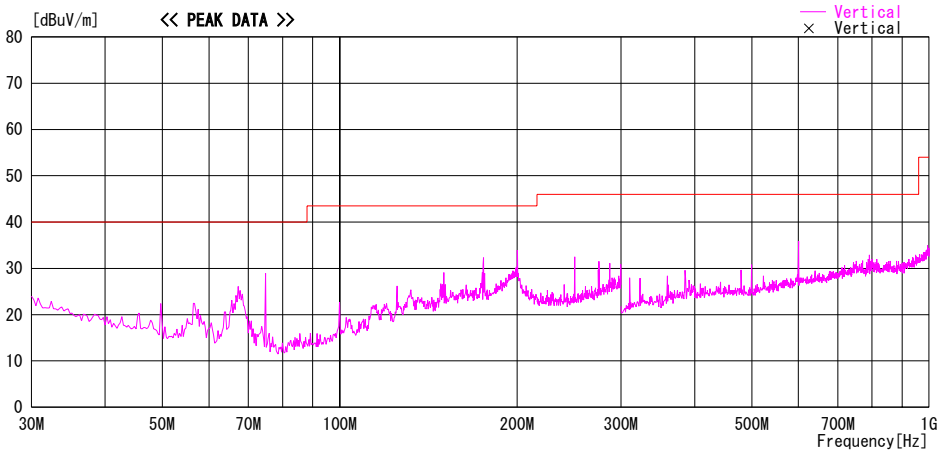


CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

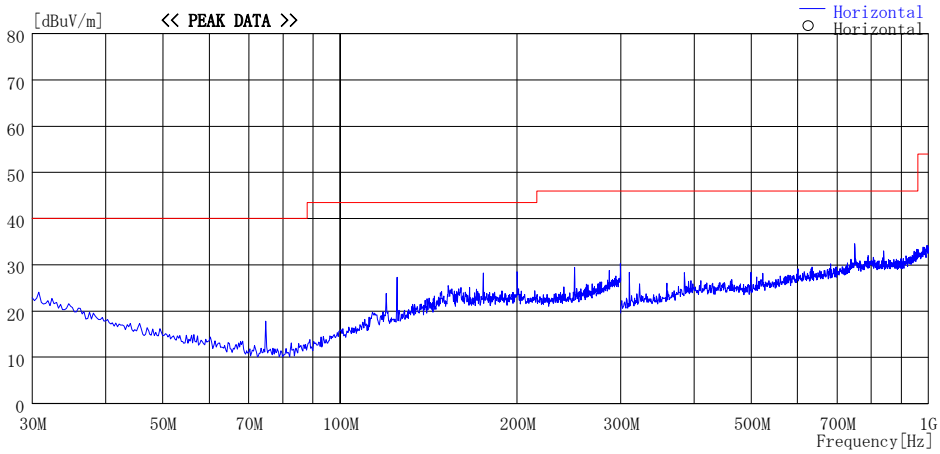
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2006/02/24 15:32:12

Applicant	: CONTEC CO., LTD	Report No.	: 26FE0180-HO
Kind of EUT	: Wireless LAN MiniPCI Card	Power	: DC 3.3V
Model No.	: FX-DS540-MPCI6	Temp./ Humi.	: 25 deg.C. / 30 %
Serial No.	: C09A54400135C01	Operator	: Hiroka Umeyama

Mode / Remarks: Rx 11a 5765MHz/18Mbps/TX100/PN9/Ant-A /EUT-max-axis

LIMIT : FCC Part15B / RSS-210 / RSS-Gen 3m
Except for the data below : adequate margin data below the limits.



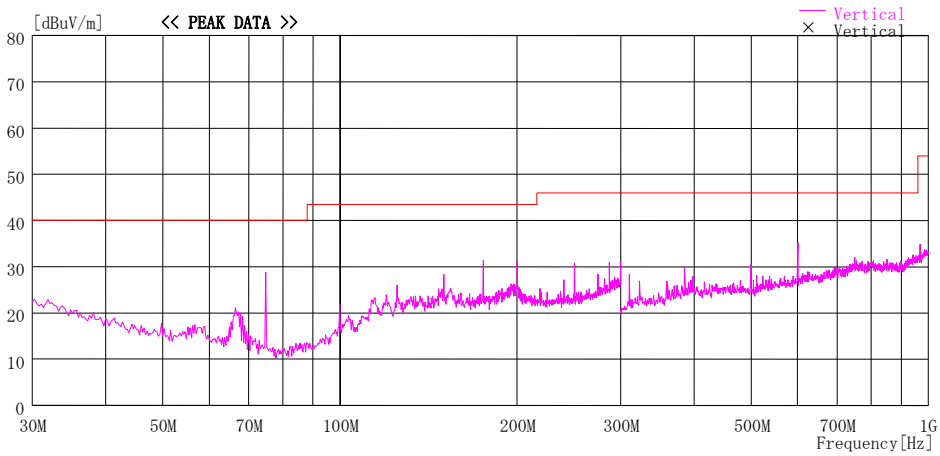


CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

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 C 15.247 (d)	
EQUIPMENT	: Wireless LAN MiniPCI Card User Unit	TEST DISTANCE	: 3m / 1m	
MODEL	: FX-DS540-MPCI6	DATE	: 02/25/2006	02/27/2006
SAMPLE NO.	: C09A54400135C01	TEMPERATURE	: 23deg.C	23 deg.C.
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 33%	30 %
MODE	: Transmitting (11a / 18Mbps / CH34: 5180MHz)	ENGINEER	: Hiroka Umeyama	Kenichi Adachi

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

No.	Freq. [MHz]	Reading HOR [dBuV]	Reading VER [dBuV]	Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR [dBuV/m]	Result VER [dBuV/m]	Limit PK [dBuV/m]	Margin HOR [dB]	Margin VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)													
1	5120.0	47.7	47.8	36.7	31.8	4.2	0.0	56.8	56.9	74.0	17.2	17.1	
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac													
2	15540.0	44.0	44.8	40.4	31.5	8.7	0.7	52.8	53.6	74.0	21.2	20.4	
3	20720.0	45.2	45.3	39.2	30.8	6.6	0.0	50.7	50.8	74.0	23.3	23.2	*5)

AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	Freq. [MHz]	Reading HOR [dBuV]	Reading VER [dBuV]	Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR [dBuV/m]	Result VER [dBuV/m]	Limit AV [dBuV/m]	Margin HOR [dB]	Margin VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)													
1	5120.0	39.8	40.4	36.7	31.8	4.2	0.0	48.9	49.5	54.0	5.1	4.5	
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac													
2	15540.0	31.1	31.0	40.4	31.5	8.7	0.7	39.9	39.8	54.0	14.1	14.2	
3	20720.0	31.9	32.0	39.2	30.8	6.6	0.0	37.4	37.5	54.0	16.6	16.5	*5)

*1) Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB
*2) Except for the above table : All other spurious emissions were less than 20dB for the limit.
*3) In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
*4) The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
*5) In the frequency over the fifth harmonic, the noise from the EUT was not seen.The data above is its base noise.

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 C 15.247 (d)	
EQUIPMENT	: Wireless LAN MiniPCI Card User Unit	TEST DISTANCE	: 3m / 1m	
MODEL	: FX-DS540-MPCI6	DATE	: 02/25/2006	02/27/2006
SAMPLE NO.	: C09A54400135C01	TEMPERATURE	: 23deg.C	23 deg.C.
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 33%	30 %
MODE	: Transmitting (11a / 18Mbps / CH52: 5260MHz)	ENGINEER	: Hiroka Umeyama	Kenichi Adachi

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

No.	Freq.	Reading		Ant.	Amp.	Cable	Atten. or	Result		Limit	Margin		
		HOR	VER	Factor	Gain	Loss	Filter	HOR	VER	PK	HOR	VER	
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)													
1	5120.0	51.3	49.9	36.7	31.8	4.2	0.0	60.4	59.0	74.0	13.6	15.0	
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac													
2	15780.0	42.8	44.7	41.3	31.4	8.7	0.5	52.4	54.3	74.0	21.6	19.7	
3	21040.0	44.1	44.2	39.1	30.7	6.6	0.0	49.6	49.7	74.0	24.4	24.3	*5)

AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	Freq.	Reading		Ant.	Amp.	Cable	Atten. or	Result		Limit	Margin		
		HOR	VER	Factor	Gain	Loss	Filter	HOR	VER	AV	HOR	VER	
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)													
1	5120.0	43.8	42.7	36.7	31.8	4.2	0.0	52.9	51.8	54.0	1.1	2.2	
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac													
2	15780.0	31.4	31.2	41.3	31.4	8.7	0.5	41.0	40.8	54.0	13.0	13.2	
3	21040.0	31.5	31.6	39.1	30.7	6.6	0.0	37.0	37.1	54.0	17.0	16.9	*5)

*1) Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB
*2) Except for the above table : All other spurious emissions were less than 20dB for the limit.
*3) In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
*4) The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
*5) In the frequency over the fifth harmonic, the noise from the EUT was not seen.The data above is its base noise.

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

Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY	: CONTEC CO,. LTD.	REGULATION	: Fcc Part15 Subpart C 15.247 (d)	
EQUIPMENT	: Wireless LAN MiniPCI Card User Unit	TEST DISTANCE	: 3m / 1m	
MODEL	: FX-DS540-MPCI6	DATE	: 02/25/2006	02/27/2006
SAMPLE NO.	: C09A54400135C01	TEMPERATURE	: 23deg.C	23 deg.C.
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 33%	30 %
MODE	: Transmitting (11a / 18Mbps / CH64: 5320MHz)	ENGINEER	: Hiroka Umeyama	Kenichi Adachi

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

No.	Freq.	Reading		Ant.	Amp.	Cable	Atten. or	Result		Limit	Margin		
		HOR	VER	Factor	Gain	Loss	Filter	HOR	VER	PK	HOR	VER	
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)													
1	5120.0	50.9	49.5	36.7	31.8	4.2	0.0	60.0	58.6	74.0	14.0	15.4	
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac													
2	10640.0	48.1	47.8	36.6	31.9	7.3	0.9	51.5	51.2	74.0	22.5	22.8	
3	15960.0	44.4	48.0	41.9	31.4	8.7	0.3	54.4	58.0	74.0	19.6	16.0	
4	21280.0	43.5	43.6	39.2	30.5	6.7	0.0	49.4	49.5	74.0	24.6	24.5	*5)

AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	Freq.	Reading		Ant.	Amp.	Cable	Atten. or	Result		Limit	Margin		
		HOR	VER	Factor	Gain	Loss	Filter	HOR	VER	AV	HOR	VER	
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)													
1	5120.0	43.9	41.5	36.7	31.8	4.2	0.0	53.0	50.6	54.0	1.0	3.4	
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac													
2	10640.0	35.0	35.2	36.6	31.9	7.3	0.9	38.4	38.6	54.0	15.6	15.4	
3	15960.0	31.5	34.2	41.9	31.4	8.7	0.3	41.5	44.2	54.0	12.5	9.8	
4	21280.0	31.1	31.2	39.2	30.5	6.7	0.0	37.0	37.1	54.0	17.0	16.9	*5)

*1) Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB
*2) Except for the above table : All other spurious emissions were less than 20dB for the limit.
*3) In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
*4) The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
*5) In the frequency over the fifth harmonic, the noise from the EUT was not seen.The data above is its base noise.

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 C 15.247 (d)	
EQUIPMENT	: Wireless LAN MiniPCI Card User Unit	TEST DISTANCE	: 3m / 1m	
MODEL	: FX-DS540-MPCI6	DATE	: 02/25/2006	02/27/2006
SAMPLE NO.	: C09A54400135C01	TEMPERATURE	: 23deg.C	23 deg.C.
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 33%	30 %
MODE	: Transmitting (11a / 18Mbps / CH149: 5745MHz)	ENGINEER	: Hiroka Umeyama	Kenichi Adachi

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

No.	Freq. [MHz]	Reading HOR [dBuV]	Reading VER [dBuV]	Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR [dBuV/m]	Result VER [dBuV/m]	Limit PK [dBuV/m]	Margin HOR [dB]	Margin VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)													
1	5120.0	52.7	51.4	36.7	31.8	4.2	0.0	61.8	60.5	74.0	12.2	13.5	
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac													
2	11490.0	42.2	42.4	38.4	31.2	7.7	0.2	47.8	48.0	74.0	26.2	26.0	
3	22980.0	44.4	44.5	39.8	30.5	6.4	0.0	50.6	50.7	74.0	23.4	23.3	*5)

AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	Freq. [MHz]	Reading HOR [dBuV]	Reading VER [dBuV]	Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR [dBuV/m]	Result VER [dBuV/m]	Limit AV [dBuV/m]	Margin HOR [dB]	Margin VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)													
1	5120.0	44.4	43.7	36.7	31.8	4.2	0.0	53.5	52.8	54.0	0.5	1.2	
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac													
2	11490.0	29.8	30.5	38.4	31.2	7.7	0.2	35.4	36.1	54.0	18.6	17.9	
3	22980.0	32.1	32.2	39.8	30.5	6.4	0.0	38.3	38.4	54.0	15.7	15.6	*5)

*1) Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB
*2) Except for the above table : All other spurious emissions were less than 20dB for the limit.
*3) In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
*4) The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
*5) In the frequency over the fifth harmonic, the noise from the EUT was not seen.The data above is its base noise.

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 C 15.247 (d)	
EQUIPMENT	: Wireless LAN MiniPCI Card User Unit	TEST DISTANCE	: 3m / 1m	
MODEL	: FX-DS540-MPCI6	DATE	: 02/25/2006	02/27/2006
SAMPLE NO.	: C09A54400135C01	TEMPERATURE	: 23deg.C	23 deg.C.
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 33%	30 %
MODE	: Transmitting (11a / 18Mbps / CH153: 5765MHz)	ENGINEER	: Hiroka Umeyama	Kenichi Adachi

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

No.	Freq. [MHz]	Reading HOR [dBuV]	Reading VER [dBuV]	Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR [dBuV/m]	Result VER [dBuV/m]	Limit PK [dBuV/m]	Margin HOR [dB]	Margin VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)													
1	5120.0	53.7	51.5	36.7	31.8	4.2	0.0	62.8	60.6	74.0	11.2	13.4	
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac													
2	11530.0	41.4	42.5	38.5	31.2	7.7	0.2	47.1	48.2	74.0	26.9	25.8	
3	23060.0	44.1	44.0	39.8	30.5	6.4	0.0	50.3	50.1	74.0	23.7	23.9	*5)

AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	Freq. [MHz]	Reading HOR [dBuV]	Reading VER [dBuV]	Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR [dBuV/m]	Result VER [dBuV/m]	Limit AV [dBuV/m]	Margin HOR [dB]	Margin VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)													
1	5120.0	44.8	43.7	36.7	31.8	4.2	0.0	53.9	52.8	54.0	0.1	1.2	
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac													
2	11530.0	29.6	29.2	38.5	31.2	7.7	0.2	35.3	34.9	54.0	18.7	19.1	
3	23060.0	32.1	32.0	39.8	30.5	6.4	0.0	38.3	38.2	54.0	15.7	15.8	*5)

*1) Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB
*2) Except for the above table : All other spurious emissions were less than 20dB for the limit.
*3) In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
*4) The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
*5) In the frequency over the fifth harmonic, the noise from the EUT was not seen.The data above is its base noise.

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 C 15.247 (d)	
EQUIPMENT	: Wireless LAN MiniPCI Card User Unit	TEST DISTANCE	: 3m / 1m	
MODEL	: FX-DS540-MPCI6	DATE	: 02/25/2006	02/27/2006
SAMPLE NO.	: C09A54400135C01	TEMPERATURE	: 23deg.C	23 deg.C.
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 33%	30 %
MODE	: Transmitting (11a / 18Mbps / CH161: 5805MHz)	ENGINEER	: Hiroka Umeyama	Kenichi Adachi

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

No.	Freq. [MHz]	Reading HOR [dBuV]	Reading VER [dBuV]	Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR [dBuV/m]	Result VER [dBuV/m]	Limit PK [dBuV/m]	Margin HOR [dB]	Margin VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	5120.0	53.4	52.5	36.7	31.8	4.2	0.0	62.5	61.6	74.0	11.5	12.4
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
2	11610.0	42.2	42.7	38.8	31.2	7.8	0.2	48.3	48.8	74.0	25.7	25.2

AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	Freq. [MHz]	Reading HOR [dBuV]	Reading VER [dBuV]	Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR [dBuV/m]	Result VER [dBuV/m]	Limit AV [dBuV/m]	Margin HOR [dB]	Margin VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	5120.0	44.3	43.8	36.7	31.8	4.2	0.0	53.4	52.9	54.0	0.6	1.1
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
2	11610.0	30.6	30.4	38.8	31.2	7.8	0.2	36.7	36.5	54.0	17.3	17.5

*1) Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB
*2) Except for the above table : All other spurious emissions were less than 20dB for the limit.
*3) In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
*4) The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
*5) In the frequency over the fifth harmonic, the noise from the EUT was not seen.The data above is its base noise.

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 B / RSS-210 / RSS-Gen	
EQUIPMENT	: Wireless LAN MiniPCI Card User Unit	TEST DISTANCE	: 3m / 1m	
MODEL	: FX-DS540-MPCI6	DATE	: 02/25/2006	02/28/2006
SAMPLE NO.	: C09A54400135C01	TEMPERATURE	: 23deg.C	25 deg.C.
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 33%	30 %
MODE	: Receiving (11a / CH52: 5260MHz)	ENGINEER	: Hiroka Umeyama	Kenichi Adachi

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

No.	Freq. [MHz]	Reading HOR [dBuV]	Reading VER [dBuV]	Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR [dBuV/m]	Result VER [dBuV/m]	Limit PK [dBuV/m]	Margin HOR [dB]	Margin VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	3560.0	42.5	42.5	32.0	32.0	3.4	0.0	45.9	45.9	74.0	28.1	28.1
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
2	15780.0	44.9	45.0	41.3	31.4	8.5	0.0	53.7	53.8	74.0	20.3	20.2

AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	Freq. [MHz]	Reading HOR [dBuV]	Reading VER [dBuV]	Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR [dBuV/m]	Result VER [dBuV/m]	Limit AV [dBuV/m]	Margin HOR [dB]	Margin VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	3560.0	30.1	30.1	32.0	32.0	3.4	0.0	33.5	33.5	54.0	20.5	20.5
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
2	15780.0	32.7	32.7	41.3	31.4	8.5	0.0	41.5	41.5	54.0	12.5	12.5

*1) Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB
*2) Except for the above table : All other spurious emissions were less than 20dB for the limit.
*3) In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
*4) 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 B / RSS-210 / RSS-Gen	
EQUIPMENT	: Wireless LAN MiniPCI Card User Unit	TEST DISTANCE	: 3m / 1m	
MODEL	: FX-DS540-MPCI6	DATE	: 02/25/2006	02/28/2006
SAMPLE NO.	: C09A54400135C01	TEMPERATURE	: 23deg.C	25 deg.C.
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 33%	30 %
MODE	: Receiving (11a / CH153: 5765MHz)	ENGINEER	: Hiroka Umeyama	Kenichi Adachi

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

No.	Freq. [MHz]	Reading HOR [dBuV]	Reading VER [dBuV]	Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR [dBuV/m]	Result VER [dBuV/m]	Limit PK [dBuV/m]	Margin HOR [dB]	Margin VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	3656.0	42.6	42.7	32.0	32.0	3.4	0.0	46.0	46.1	74.0	28.0	27.9
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
2	17295.0	44.9	45.0	46.2	30.9	9.3	0.0	59.9	60.0	74.0	14.1	14.0

AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	Freq. [MHz]	Reading HOR [dBuV]	Reading VER [dBuV]	Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result HOR [dBuV/m]	Result VER [dBuV/m]	Limit AV [dBuV/m]	Margin HOR [dB]	Margin VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	3656.0	30.1	30.1	32.0	32.0	3.4	0.0	33.5	33.5	54.0	20.5	20.5
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
2	17295.0	33.1	33.2	46.2	30.9	9.3	0.0	48.1	48.2	54.0	5.9	5.8

*1) Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB
*2) Except for the above table : All other spurious emissions were less than 20dB for the limit.
*3) In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
*4) 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 / 0.3m	
MODEL	: FX-DS540-MPCI6	DATE	: 02/25/2006	02/27/2006
SAMPLE NO.	: C09A54400135C01	TEMPERATURE	: 23deg.C	23 deg.C.
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 33%	30 %
MODE	: Transmitting (11a / 18Mbps / CH34: 5180MHz)	ENGINEER	: Hiroka Umeyama	Kenichi Adachi
POSITION	: MAX			

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	10360.00	46.5	48.6	-48.7	-46.6	-27.0	21.7	19.6
2	25900.00	53.6	53.5	-41.6	-41.7	-27.0	14.6	14.7
3	31080.00	52.4	52.5	-42.8	-42.7	-27.0	15.8	15.7
4	36260.00	65.6	65.8	-29.6	-29.4	-27.0	2.6	2.4

Resrult(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 / 0.3m	
MODEL	: FX-DS540-MPCI6	DATE	: 02/25/2006	02/27/2006
SAMPLE NO.	: C09A54400135C01	TEMPERATURE	: 23deg.C	23 deg.C.
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 33%	30 %
MODE	: Transmitting (11a / 18Mbps / CH52: 5260MHz)	ENGINEER	: Hiroka Umeyama	Kenichi Adachi
POSITION	: MAX			

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	10520.00	50.6	48.9	-44.6	-46.3	-27.0	17.6	19.3
2	26300.00	51.4	51.5	-43.8	-43.7	-27.0	16.8	16.7
3	31560.00	53.8	53.9	-41.4	-41.3	-27.0	14.4	14.3
4	36820.00	65.9	65.8	-29.3	-29.4	-27.0	2.3	2.4

Resrult(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 / 0.3m	
MODEL	: FX-DS540-MPCI6	DATE	: 02/25/2006	02/27/2006
SAMPLE NO.	: C09A54400135C01	TEMPERATURE	: 23deg.C	23 deg.C.
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 33%	30 %
MODE	: Transmitting (11a / 18Mbps / CH64: 5320MHz)	ENGINEER	: Hiroka Umeyama	Kenichi Adachi
POSITION	: MAX			

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	26600.00	49.1	49.0	-46.1	-46.2	-27.0	19.1	19.2
2	31920.00	53.8	54.0	-41.4	-41.2	-27.0	14.4	14.2
3	37240.00	64.5	64.6	-30.7	-30.6	-27.0	3.7	3.6

Resrult(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 / 0.3m	
MODEL	: FX-DS540-MPCI6	DATE	: 02/25/2006	02/27/2006
SAMPLE NO.	: C09A54400135C01	TEMPERATURE	: 23deg.C	23 deg.C.
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 33%	30 %
MODE	: Transmitting (11a / 18Mbps / CH149 : 5745MHz)	ENGINEER	: Hiroka Umeyama	Kenichi Adachi
POSITION	: MAX			

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	17235.00	60.6	61.2	-34.6	-34.0	-27.0	7.6	7.0
2	28725.00	50.5	50.4	-44.7	-44.8	-27.0	17.7	17.8
3	34470.00	53.4	53.3	-41.8	-41.9	-27.0	14.8	14.9

Resrult(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 / 0.3m	
MODEL	: FX-DS540-MPCI6	DATE	: 02/25/2006	02/27/2006
SAMPLE NO.	: C09A54400135C01	TEMPERATURE	: 23deg.C	23 deg.C.
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 33%	30 %
MODE	: Transmitting (11a / 18Mbps / CH153 : 5765MHz)	ENGINEER	: Hiroka Umeyama	Kenichi Adachi
POSITION	: MAX			

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	17295.00	59.1	59.6	-36.1	-35.6	-27.0	9.1	8.6
2	28825.00	50.2	50.3	-45.0	-44.9	-27.0	18.0	17.9
3	34590.00	53.3	53.2	-41.9	-42.0	-27.0	14.9	15.0

Resrult(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 / 0.3m	
MODEL	: FX-DS540-MPCI6	DATE	: 02/25/2006	02/27/2006
SAMPLE NO.	: C09A54400135C01	TEMPERATURE	: 23deg.C	23 deg.C.
POWER	: DC3.3V(AC120V/60Hz)	HUMIDITY	: 33%	30 %
MODE	: Transmitting (11a / 18Mbps / CH161 : 5805MHz)	ENGINEER	: Hiroka Umeyama	Kenichi Adachi
POSITION	: MAX			

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	17415.00	59.1	59.2	-36.1	-36.0	-27.0	9.1	9.0
2	23220.00	51.4	51.3	-43.8	-43.9	-27.0	16.8	16.9
3	29025.00	49.5	49.6	-45.7	-45.6	-27.0	18.7	18.6
4	34830.00	55.5	55.6	-39.7	-39.6	-27.0	12.7	12.6

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

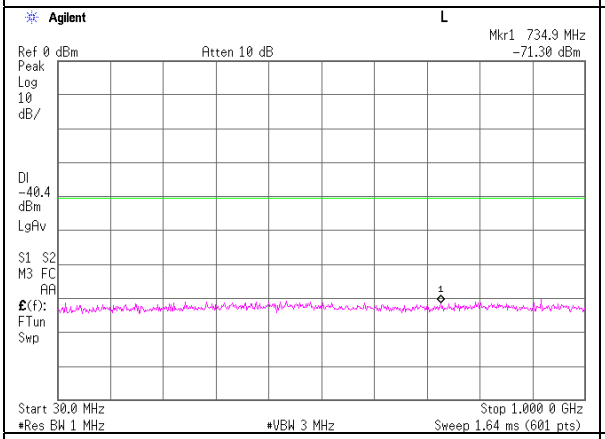
*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.

Conducted Spurious Emission(DSSS and other forms of modulation)

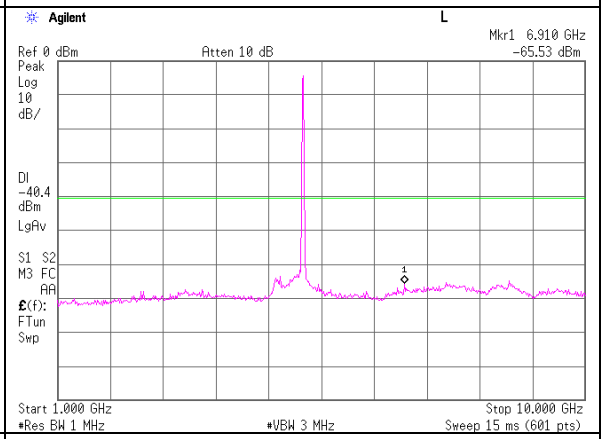
24Mbps Antenna:B

Ch : 36

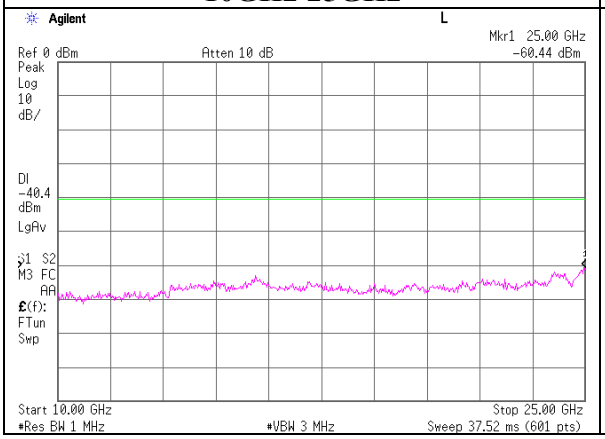
30MHz-1GHz



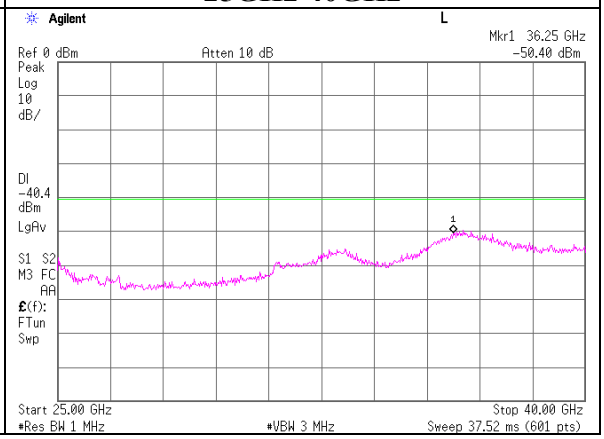
1GHz-10GHz



10GHz-25GHz



25GHz-40GHz

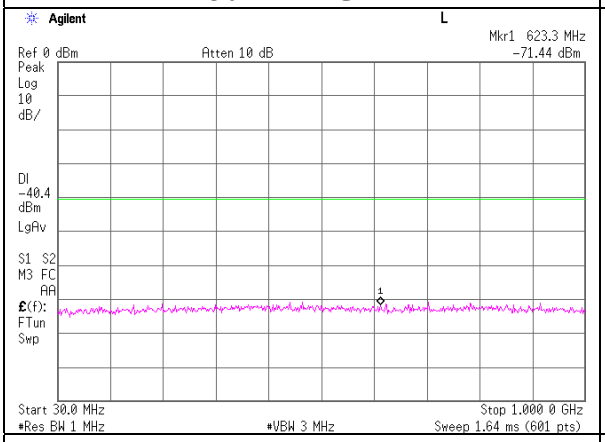


Conducted Spurious Emission(DSSS and other forms of modulation)

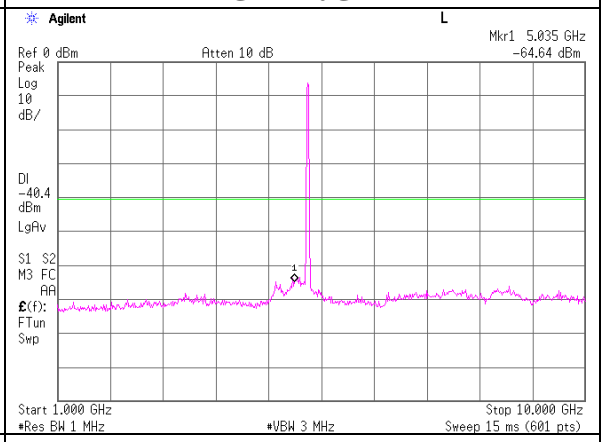
24Mbps Antenna:B

Ch : 52

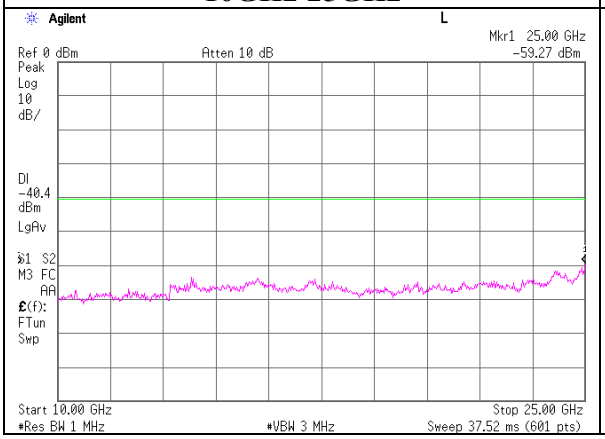
30MHz-1GHz



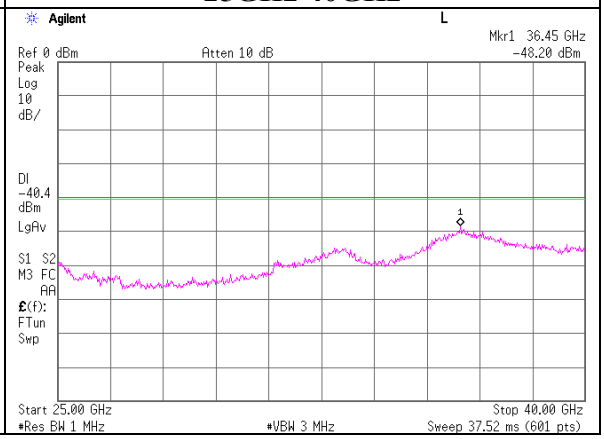
1GHz-10GHz



10GHz-25GHz



25GHz-40GHz

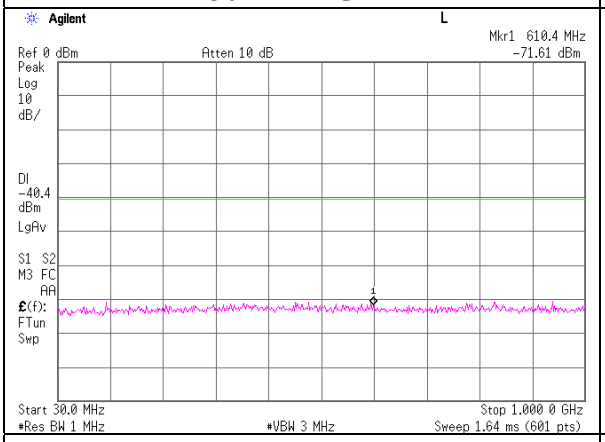


Conducted Spurious Emission(DSSS and other forms of modulation)

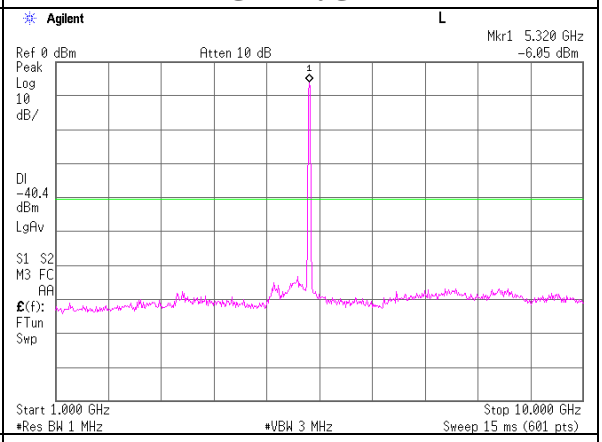
24Mbps Antenna:B

Ch : 64

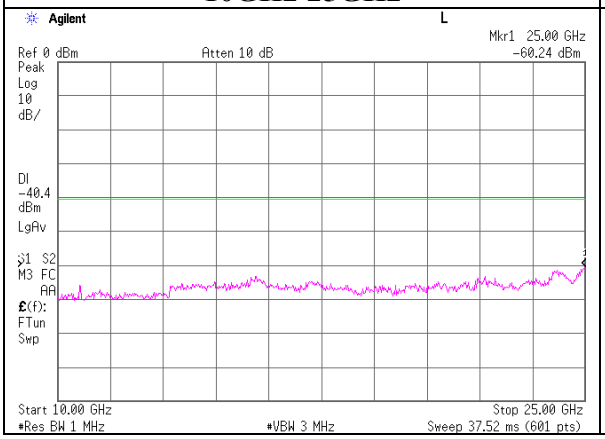
30MHz-1GHz



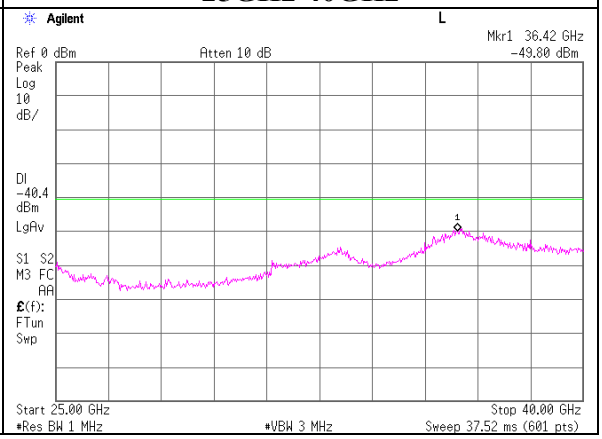
1GHz-10GHz



10GHz-25GHz



25GHz-40GHz

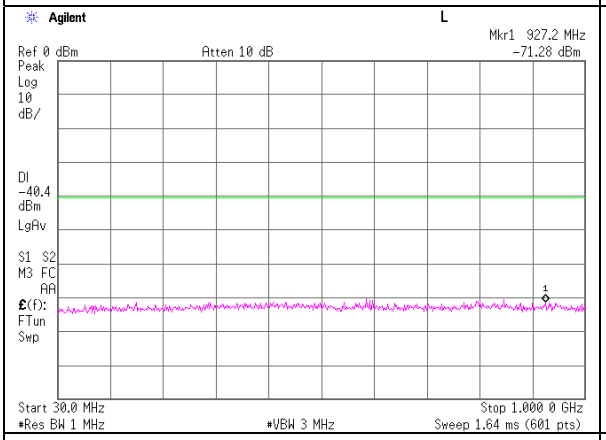


Conducted Spurious Emission(DSSS and other forms of modulation)

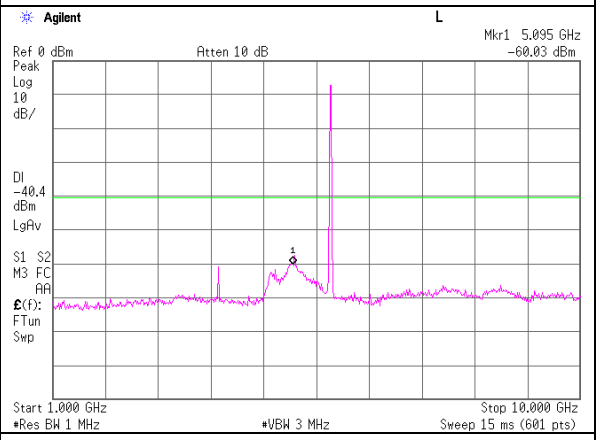
24Mbps Antenna:B

Ch : 149

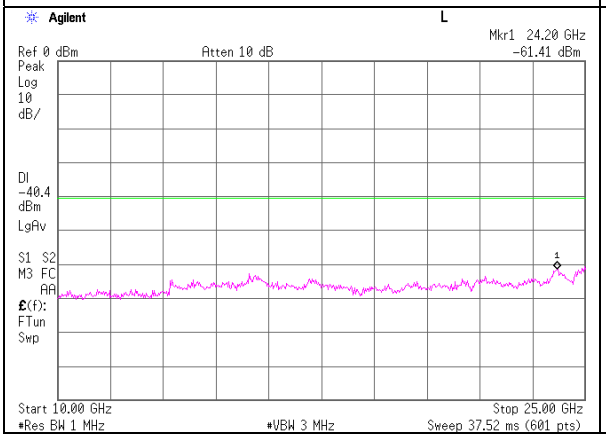
30MHz-1GHz



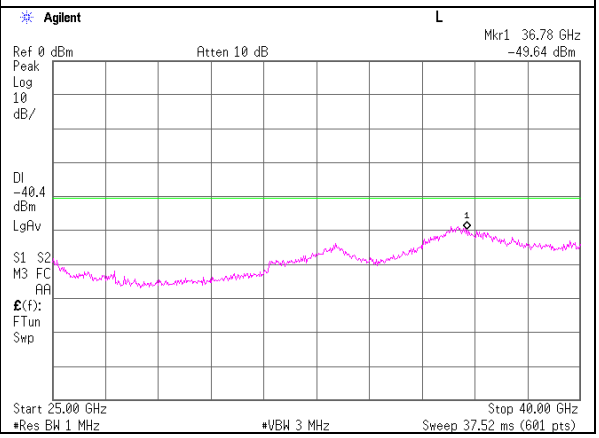
1GHz-10GHz



10GHz-25GHz



25GHz-40GHz

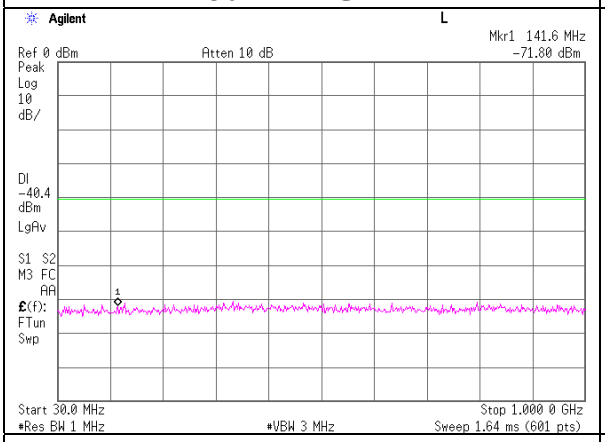


Conducted Spurious Emission(DSSS and other forms of modulation)

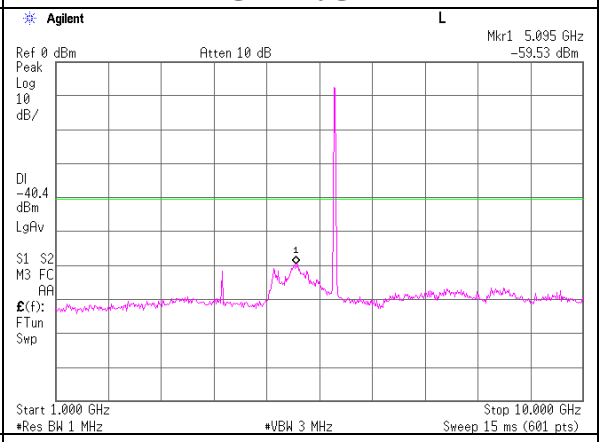
24Mbps Antenna:B

Ch : 153

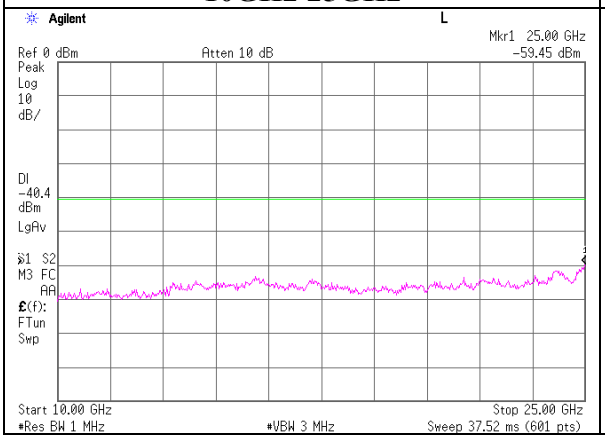
30MHz-1GHz



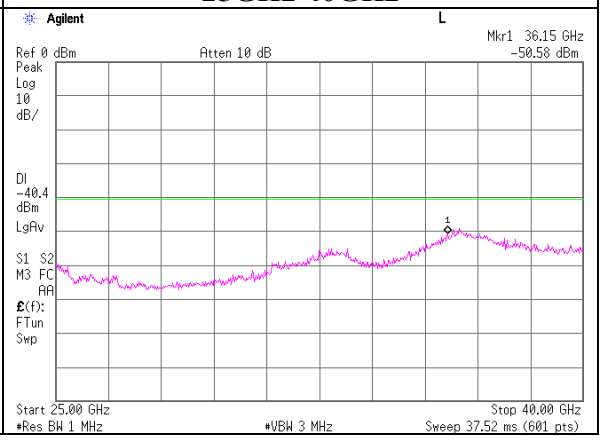
1GHz-10GHz



10GHz-25GHz



25GHz-40GHz

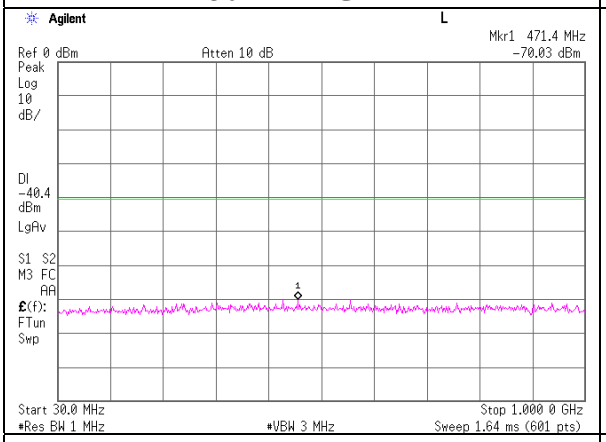


Conducted Spurious Emission(DSSS and other forms of modulation)

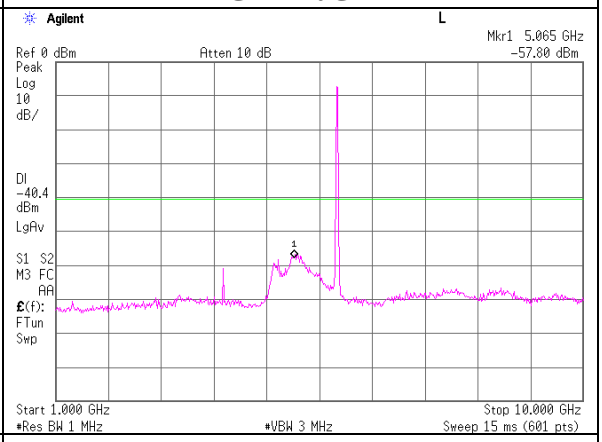
24Mbps Antenna:B

Ch : 161

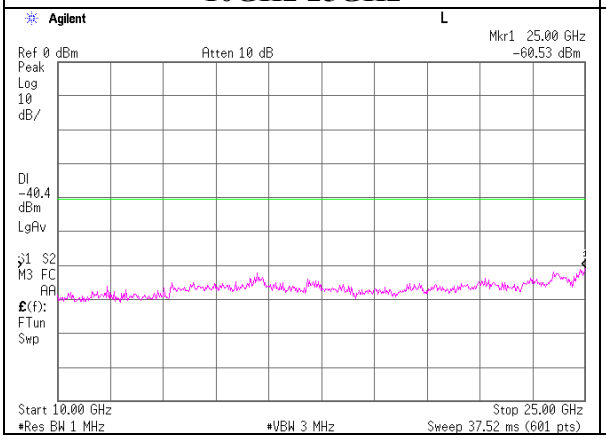
30MHz-1GHz



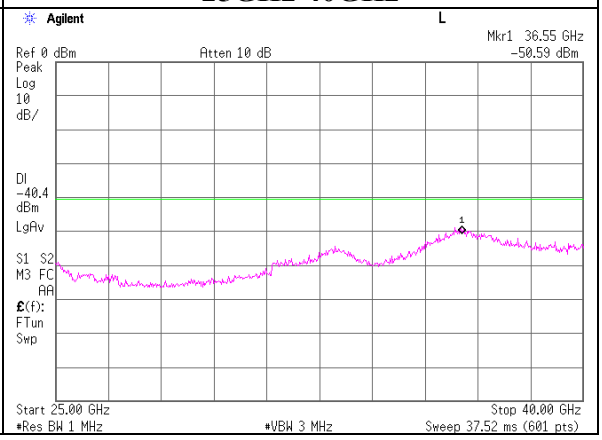
1GHz-10GHz



10GHz-25GHz



25GHz-40GHz

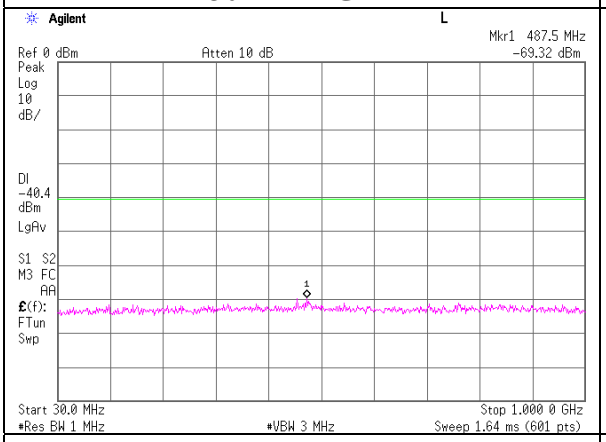


Conducted Spurious Emission(DSSS and other forms of modulation)

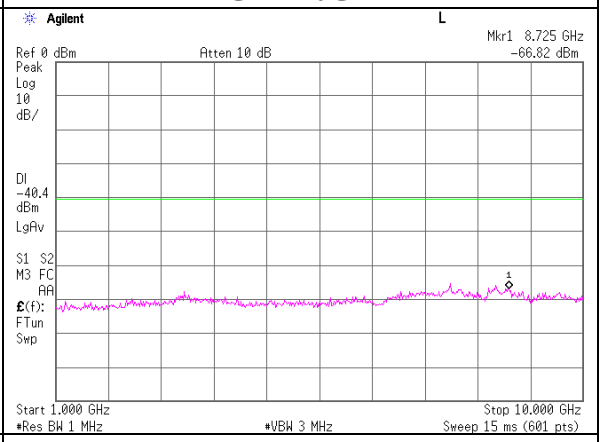
24Mbps Antenna:B

Rx

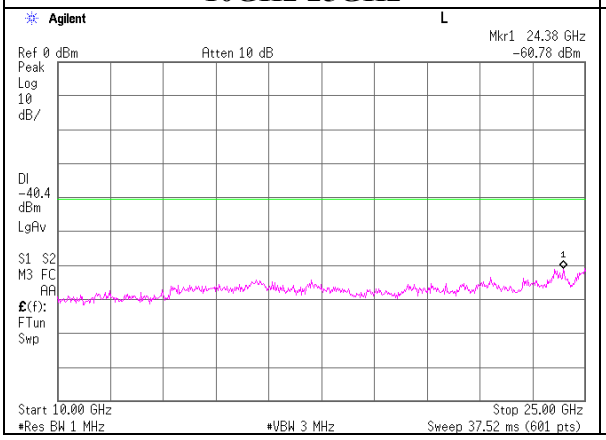
30MHz-1GHz



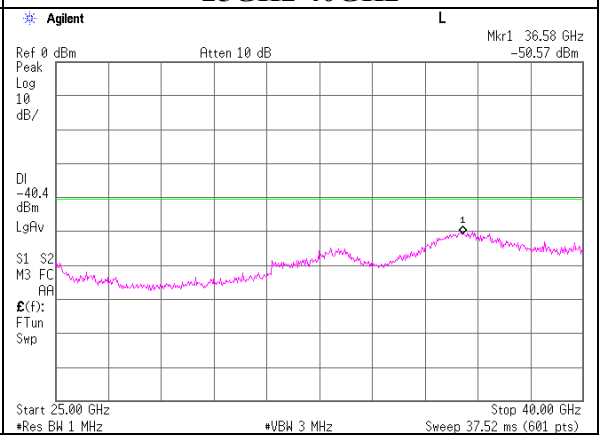
1GHz-10GHz



10GHz-25GHz



25GHz-40GHz



Radiated emission Band Edge compliance

18Mbps Antenna:A

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

COMPANY	CONTEC CO., LTD.	REPORT NO	26FE0180-HO
EQUIPMENT	Wireless LAN MiniPCI Card	REGULATION	FCC15.407
MODEL	FX-DS540-MPCI6	TEST DISTANCE	3m
S/N	C09A54400135C01	DATE	02/25/2006
POWER	DC3.3V	TEMPERATURE	22 deg.C.
MODE	Tx 5745/5805 MHz	HUMIDITY	33%
POSITION	H: X-axis / V: Z-axis		
TX ANTENNA HIGH	0.8m	ENGINEER	Hiroka Umeyama
	11a, 18Mbps		

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	59.5	56.4	-42.1	-45.7	-27.0	15.1	18.7	Operating
2	5725.00	73.5	70.3	-28.1	-31.8	-17.0	11.1	14.8	Operating
3	5825.00	66.6	67.2	-35.1	-35.0	-17.0	18.1	18.0	Operating
4	5835.00	55.9	54.5	-45.8	-47.7	-27.0	18.8	20.7	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 HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit PK [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	5150.0	58.4	58.7	36.7	31.8	4.3	0.0	67.6	67.9	74.0	6.4	6.1
2	5350.0	58.8	56.5	36.5	31.8	4.4	0.0	67.9	65.6	74.0	6.1	8.4

AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit AV [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	5150.0	38.3	39.3	36.7	31.8	4.3	0.0	47.5	48.5	54.0	6.5	5.5
2	5350.0	43.2	41.3	36.5	31.8	4.4	0.0	52.3	50.4	54.0	1.7	3.6

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	26FE0180-HO
EQUIPMENT	Wireless LAN MiniPCI Card	REGULATION	FCC15.407
MODEL	FX-DS540-MPCI6	TEST DISTANCE	3m
S/N	C09A54400135C01	DATE	02/25/2006
POWER	DC3.3V	TEMPERATURE	22 deg.C.
MODE	Tx 5745/5805 MHz	HUMIDITY	33%
POSITION	H: X-axis / V: Z-axis		
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	52.4	51.7	-49.2	-50.4	-27.0	22.2	23.4	Operating
2	5725.00	64.4	61.9	-37.2	-40.2	-17.0	20.2	23.2	Operating
3	5825.00	59.4	59.3	-42.3	-42.9	-17.0	25.3	25.9	Operating
4	5835.00	50.2	51.5	-51.5	-50.7	-27.0	24.5	23.7	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 HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit PK [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	5150.0	49.6	51.6	36.7	31.8	4.3	0.0	58.8	60.8	74.0	15.2	13.2
2	5350.0	50.0	48.7	36.5	31.8	4.4	0.0	59.1	57.8	74.0	14.9	16.2

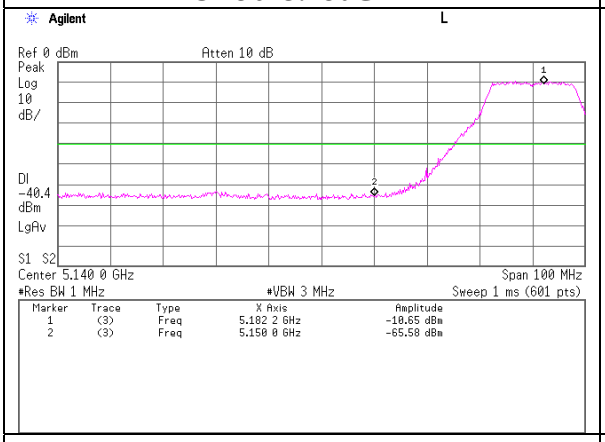
AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit AV [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	5150.0	32.2	33.3	36.7	31.8	4.3	0.0	41.4	42.5	54.0	12.6	11.5
2	5350.0	33.5	32.5	36.5	31.8	4.4	0.0	42.6	41.6	54.0	11.4	12.4

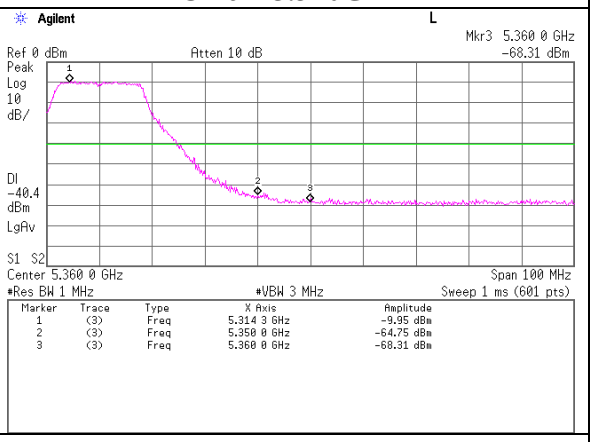
Conducted emission Band Edge compliance

54Mbps Antenna:B

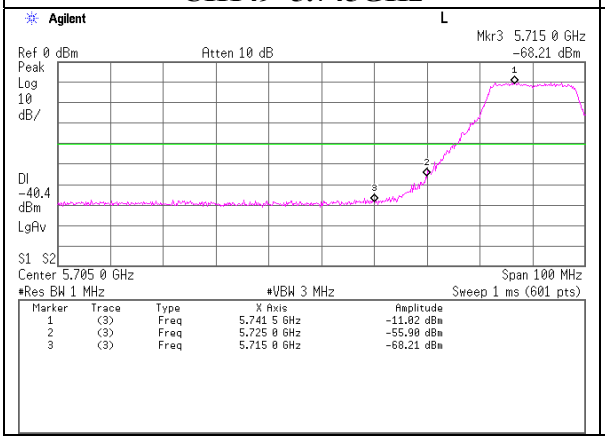
CH36 5.180GHz



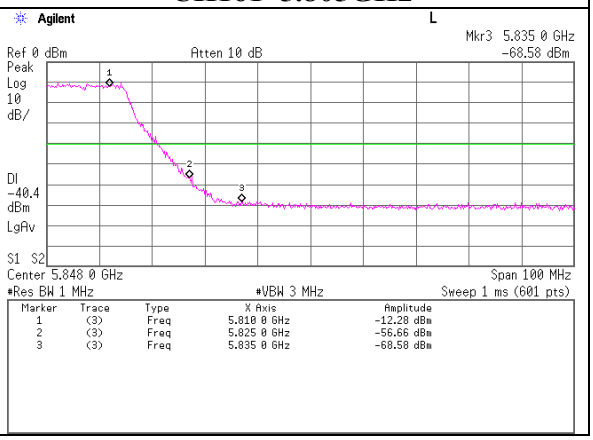
CH64 5.320GHz



CH149 5.745GHz



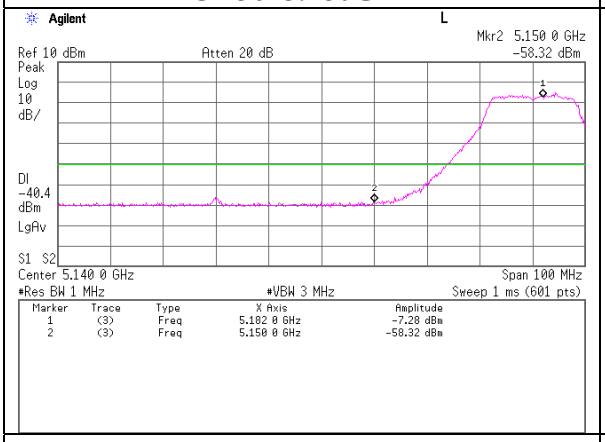
CH161 5.805GHz



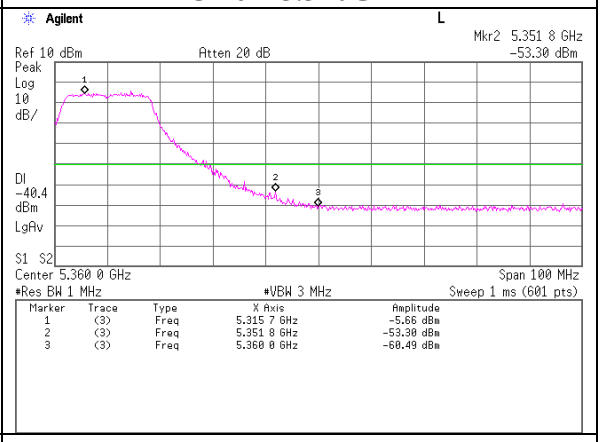
Conducted emission Band Edge compliance

24Mbps Antenna:B

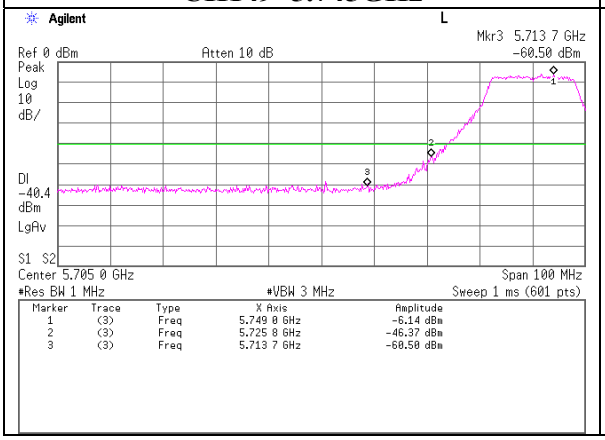
CH36 5.180GHz



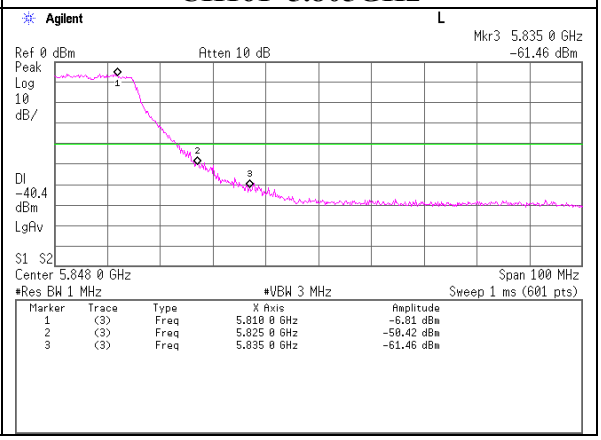
CH64 5.320GHz



CH149 5.745GHz



CH161 5.805GHz



Peak Power Spectral Density

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

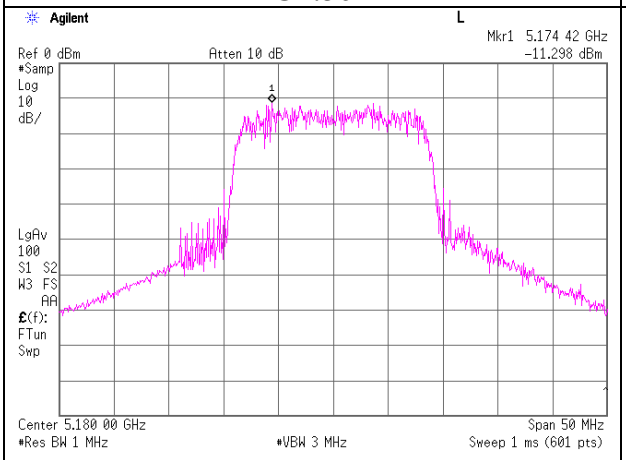
Company	: CONTEC CO., LTD.	REPORT NO	: 26FE0180-HO
Equipment	: Wireless LAN MiniPCI Card	REGULATION	: FCC 15.407(a)(1)(2)(3)
Model	: FX-DS540-MPCI6	TEST DISTANCE	: -
Sample No.	: C09A5440017CC01	DATE	: 02/22/2006
Power	: DC3.3V	TEMPERATURE	: 24deg.C
Mode	: Tx IEEE 802.11a	HUMIDITY	: 33%
Antenna	: B	ENGINEER	: Hiroka Umeyama
Rate	: 24Mbps		

Ch	Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
36	5180.0	-11.29	3.4	10.0	2.1	4.0	1.9
52	5260.0	-10.64	3.4	10.0	2.8	4.0	1.2
64	5320.0	-10.34	3.4	10.0	3.1	11.0	7.9
149	5745.0	-11.38	3.4	10.0	2.0	17.0	15.0
153	5765.0	-12.21	3.4	10.0	1.2	17.0	15.8
161	5805.0	-12.77	3.4	10.0	0.6	17.0	16.4

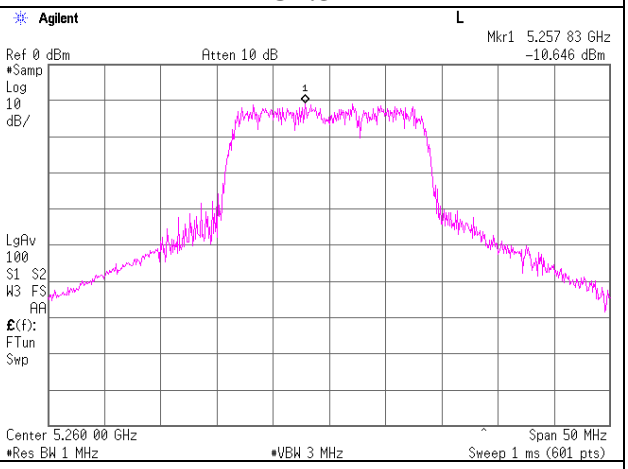
Sample Calculation:
Result = Reading + Cable Loss + Attenuator
* Atten. was not used for factor 0.0dB of the above table.

Peak Power Spectral Density
24Mbps Antenna:B

Ch:36



Ch:52



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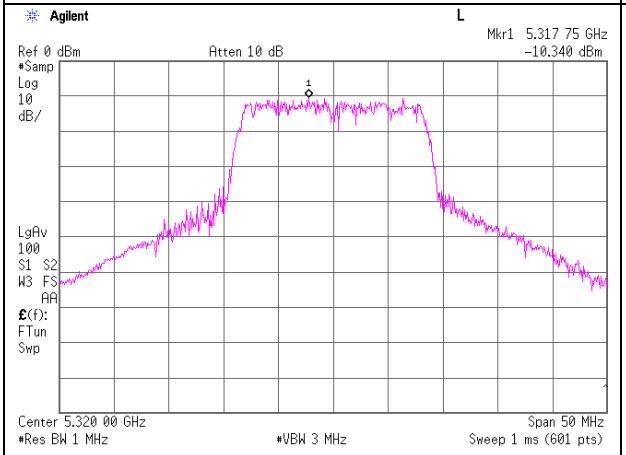

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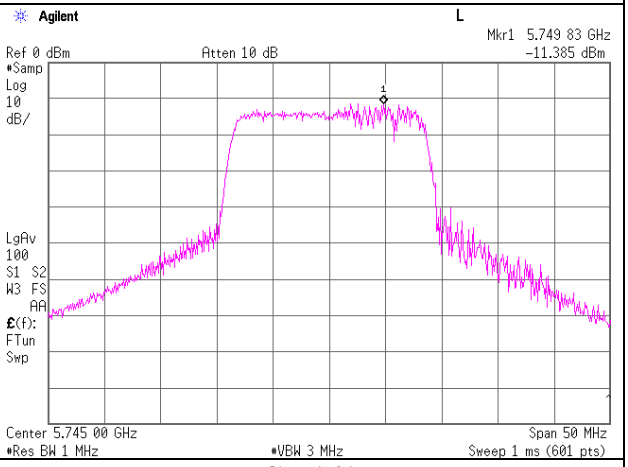

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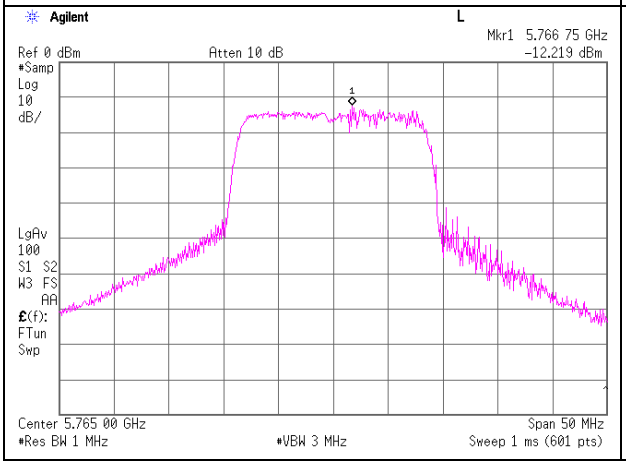

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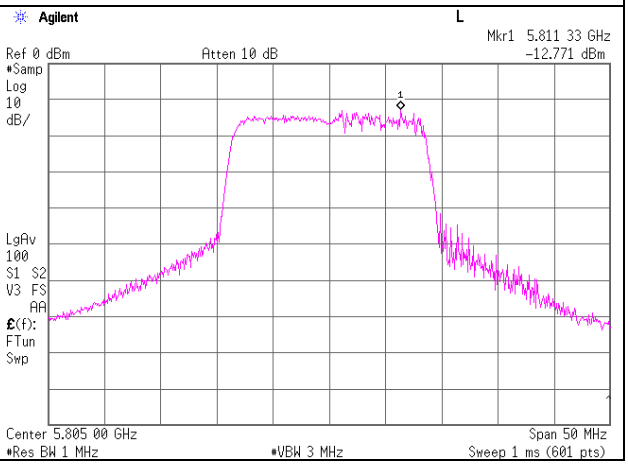


Peak Excursion Ratio

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

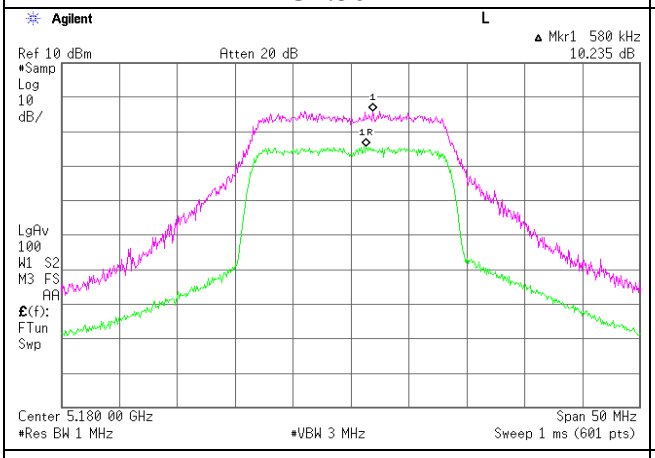
Company	: CONTEC CO., LTD.	REPORT NO	: 26FE0180-HO
Equipment	: Wireless LAN MiniPCI Card	REGULATION	: FCC 15.407(a)(6)
Model	: FX-DS540-MPCI6	TEST DISTANCI	: -
Sample No.	: C09A5440017CC01	DATE	: 02/22/2006
Power	: DC3.3V	TEMPERATURE	: 24deg.C
Mode	: Tx IEEE 802.11a	HUMIDITY	: 33%
Antenna	: B	ENGINEER	: Hiroka Umeyama
Rate	: 24Mbps		

Ch	Freq. [MHz]	Peak Power Excursion [dB]	Limit [dB]
36	5180.0	10.235	13.0
52	5260.0	10.655	13.0
64	5320.0	11.029	13.0
149	5745.0	9.024	13.0
153	5765.0	9.324	13.0
161	5805.0	9.434	13.0

Peak Excursion Ratio

24Mbps Antenna:B

Ch:36



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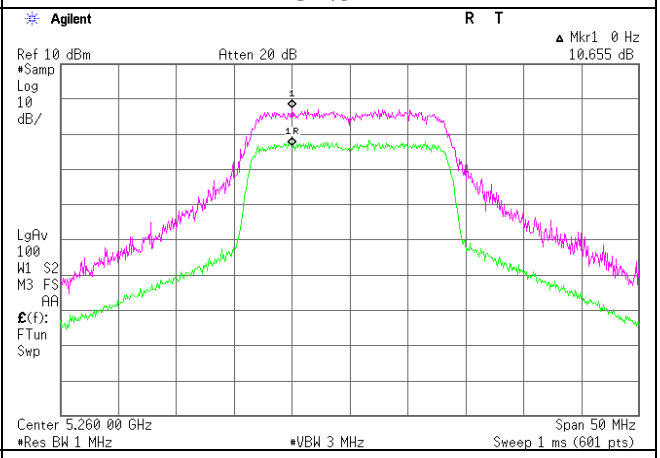

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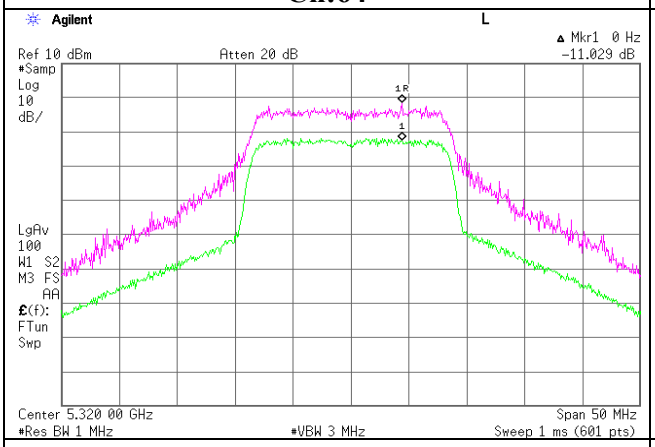

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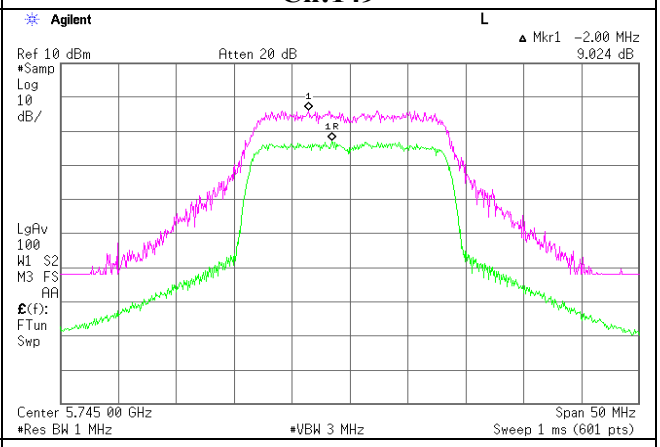

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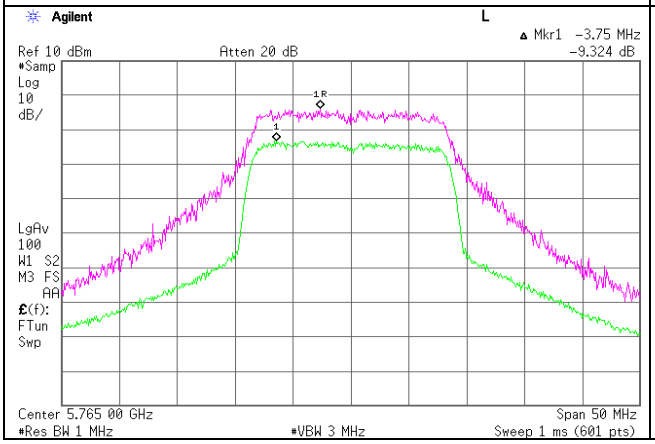

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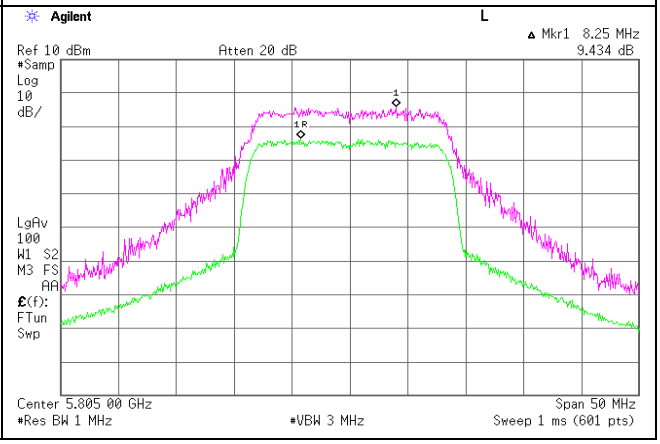
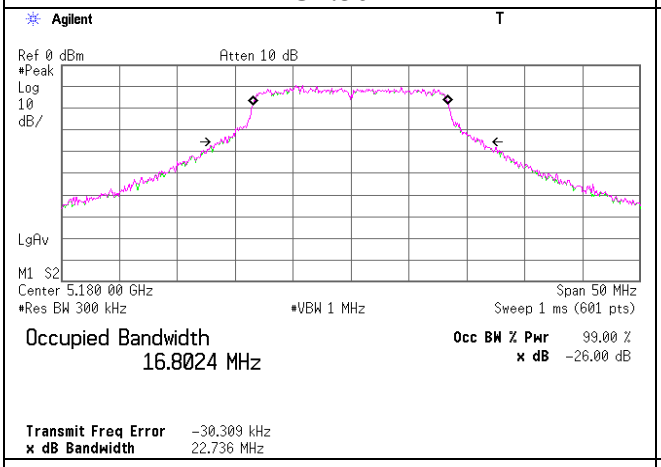


99%Occupied Bandwidth

24Mbps Antenna:B

Ch:36



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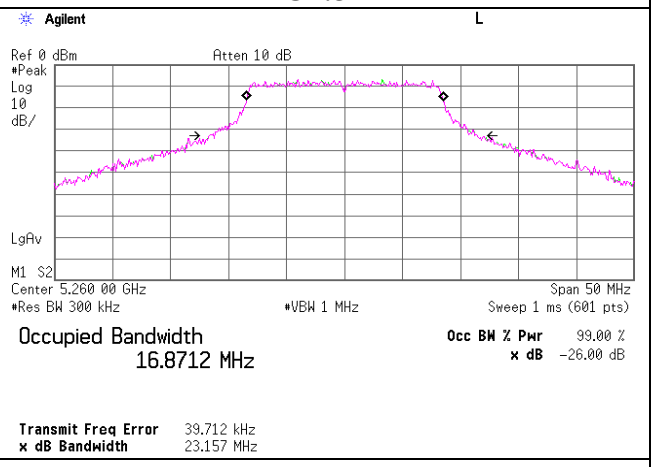

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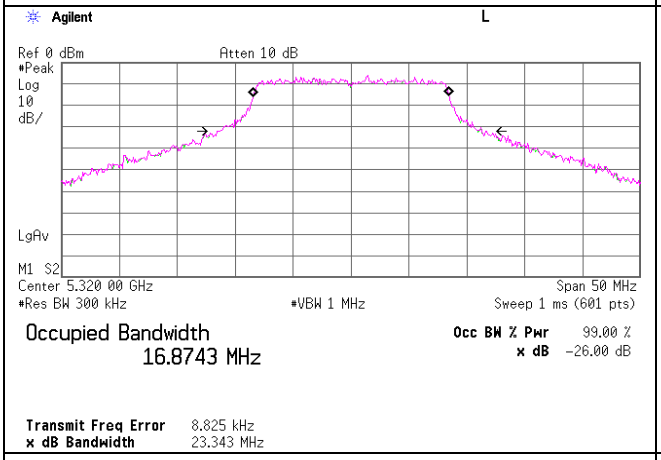

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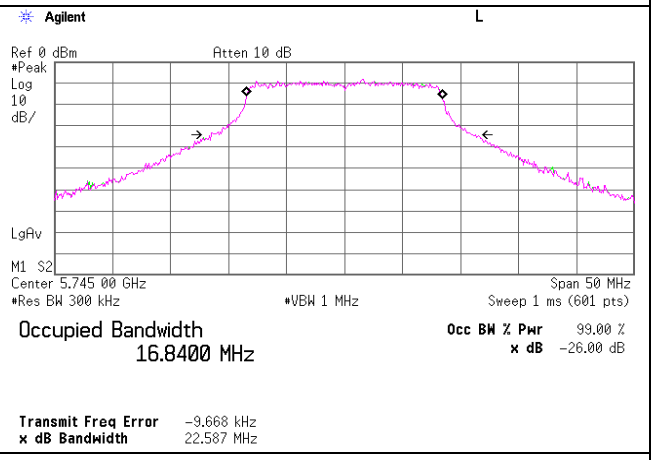

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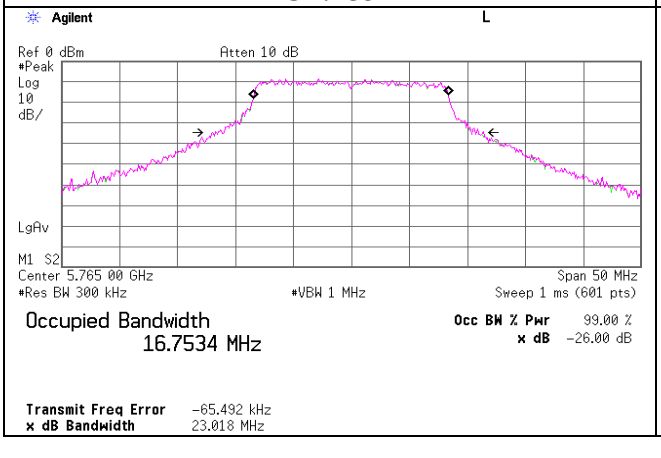
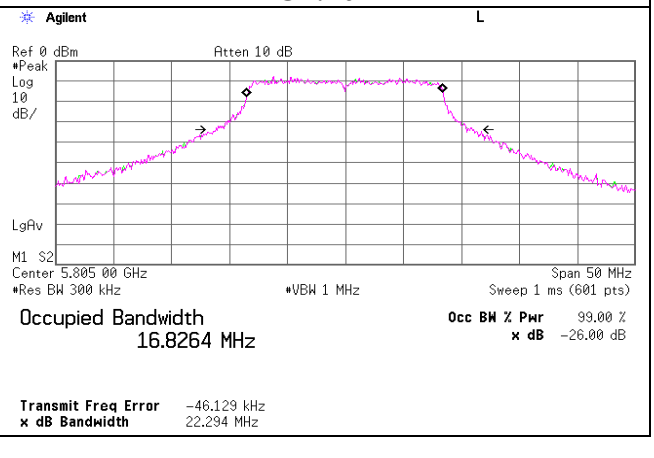
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