



Dates of Tests: AUG 16 ~ SEP 20, 2007  
Test Report S/N: LR50019079I  
Test Site : LTA CO., LTD.

## CERTIFICATION OF COMPLIANCE

FCC ID.

**SXV-COWON-Q5W**

APPLICANT

**COWON SYSTEMS, Inc.**

<b>FCC Classification</b>	:	<b>FCC Part 15 Spread Spectrum Transceiver (DSS)</b>
<b>Manufacturing Description</b>	:	<b>Premium PMP</b>
<b>Manufacturer</b>	:	<b>COWON SYSTEMS, Inc.</b>
<b>Model name</b>	:	<b>COWON Q5W</b>
<b>Test Device Serial No.:</b>	:	<b>Identical prototype</b>
<b>Rule Part(s)</b>	:	<b>FCC Part 15.247 Subpart C; ANSI C-63.4-2003</b>
<b>Frequency Range</b>	:	<b>2412MHz ~ 2462MHz</b>
<b>Max. Output Power</b>	:	<b>12.28dBm Peak Conducted (802.11b)</b> <b>12.03dBm Peak Conducted (802.11g)</b>
<b>Data of issue</b>	:	<b>October 2, 2007</b>

This test report is issued under the authority of:

The test was supervised by:



Dong -Min JUNG, Technical Manager



Kyung-Taek LEE, Test Engineer

This test result only responds to the tested sample. It is not allowed to copy this report even partly without the allowance of the test laboratory. This report must not be used by the applicant to claim product endorsement by any agency.



NVLAP LAB Code.: 200723-0

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## 1. General information's

### 1-1 Test Performed

Company name : LTA Co., Ltd.  
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Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the “General requirements for the competents of calibration and testing laboratory”.

### 1-2 Accredited agencies

LTA Co., Ltd. is approved to perform EMC testing by the following agencies:

Agency	Country	Accreditation No.	Validity	Reference
NVLAP	U.S.A	200723-0	2008-09-30	ECT accredited Lab.
RRL	KOREA	KR0049	2009-06-20	EMC accredited Lab.
FCC	U.S.A	610755	2008-03-28	FCC filing
VCCI	JAPAN	R2133, C2307	2008-06-22	VCCI registration
IC	CANADA	IC5799	2008-04-23	IC filing



### 3. Test Report

#### 3.1 Summary of tests

FCC Part Section(s)	Parameter	Limit	Test Condition	Status (note 1)
15.247(a)	6 dB Bandwidth	> 500kHz	Conducted	C
15.247(b)	Transmitter Peak Output Power	< 1Watt		C
15.247(d)	Transmitter Power Spectral Density	< 8dBm @ 3kHz		C
15.247(d)	Band Edge & Spurious	> 20 dBc		C
15.209	Field Strength of Harmonics	Emission	Radiated	C
15.207	AC Conducted Emissions	Emissions	Conducted	C
15.203	Antenna requirement	-	-	C

Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable

Note 2: The data in this test report are traceable to the national or international standards.

#### → Antenna Requirement

The COWON SYSTEMS, Inc. FCC ID: SXV-COWON-Q5W unit complies with the requirement of §15.203. The Antenna connector was made special type by manufacturer.

The sample was tested according to the following specification:  
FCC Parts 15.247; ANSI C-63.4-2003

## 3.2 Technical Characteristics Test (802.11b/g)

### 3.2.1 6 dB Bandwidth

#### Procedure:

The bandwidth at 6dB below the highest in-band spectral density was measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate frequencies.

After the trace being stable, Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 6dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is ( as close as possible to ) even with the reference marker level. The marker-delta reading at this point is the 6 dB bandwidth of the emission.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 100 kHz

Span = 30 MHz

VBW = 300 kHz (VBW  $\geq$  RBW)

Sweep = auto

Trace = max hold

Detector function = peak

#### Measurement Data:

Mode	Frequency (MHz)	Channel No.	Test Results	
			Measured Bandwidth (MHz)	Result
802.11b	2412	1	11.78	Complies
	2437	6	12.08	Complies
	2462	11	11.25	Complies
802.11g	2412	1	16.58	Complies
	2437	6	16.65	Complies
	2462	11	16.65	Complies

- See next pages for actual measured spectrum plots.

#### Minimum Standard:

6 dB Bandwidth > 500kHz

#### Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)







### 3.2.2 Peak Output Power Measurement

#### Procedure:

The maximum peak output power was measured with the spectrum analyzer connected to the antenna output of the EUT. The spectrum analyzer's internal channel power integration function is used to integrate the power over a bandwidth greater than or equal to the 99% bandwidth. The EUT was operating in transmit mode at the appropriate center frequency.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 1MHz

Span = auto

VBW = 3MHz (VBW  $\geq$  RBW)

Sweep = auto

Detector function = peak

#### Measurement Data:

Mode	Frequency (MHz)	Channel No.	Test Results	
			Measured Data (dBm)	Result
802.11b	2412	1	12.00	Complies
	2437	6	11.63	Complies
	2462	11	12.28	Complies
802.11g	2412	1	12.03	Complies
	2437	6	11.77	Complies
	2462	11	11.59	Complies

-

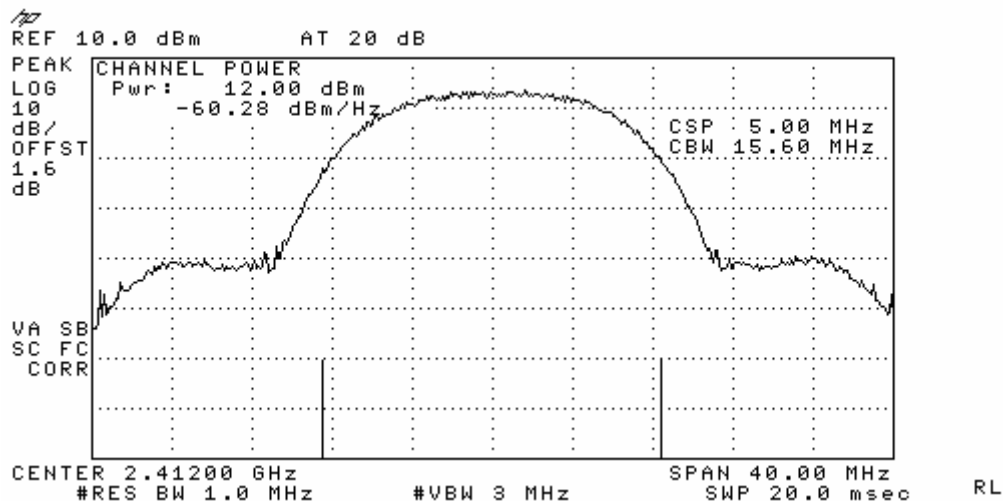
- See next pages for actual measured spectrum plots.

#### Minimum Standard:

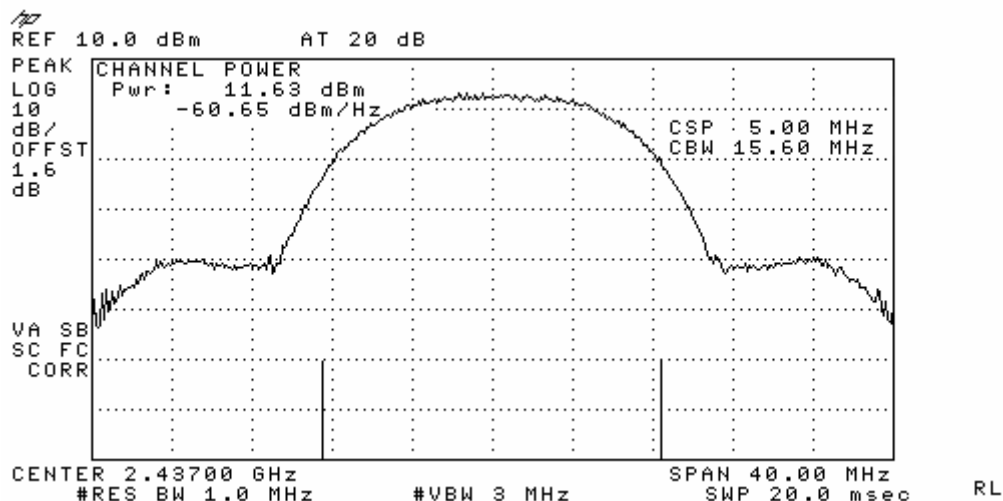
Peak output power	< 1W
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Measurement Data:

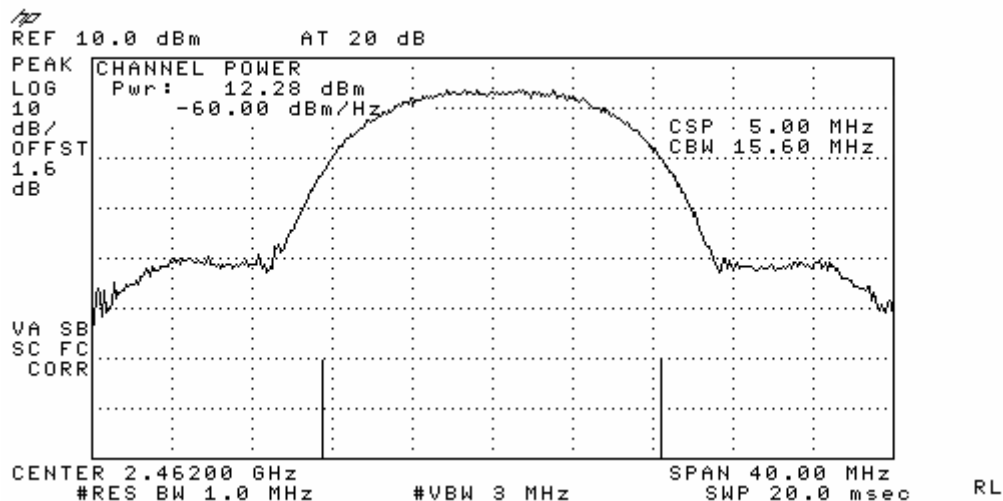
CH 1



CH 6

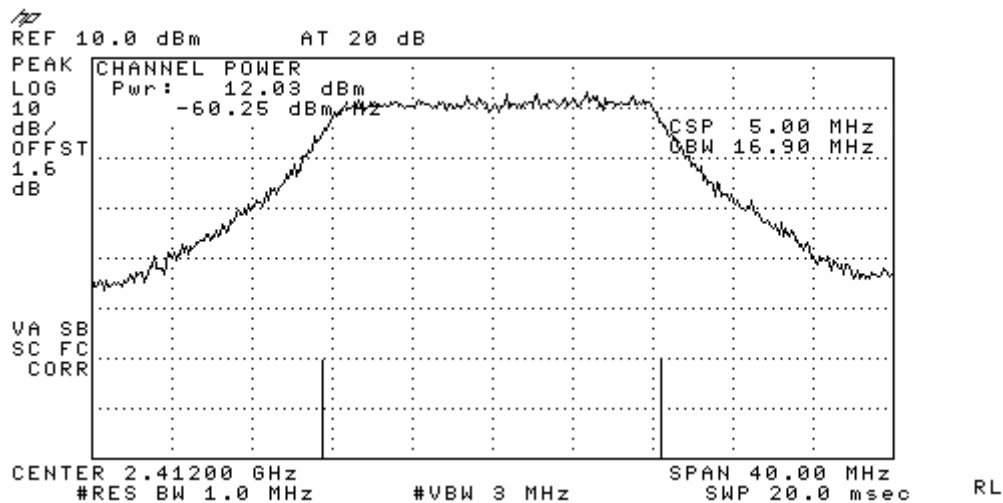


CH 11

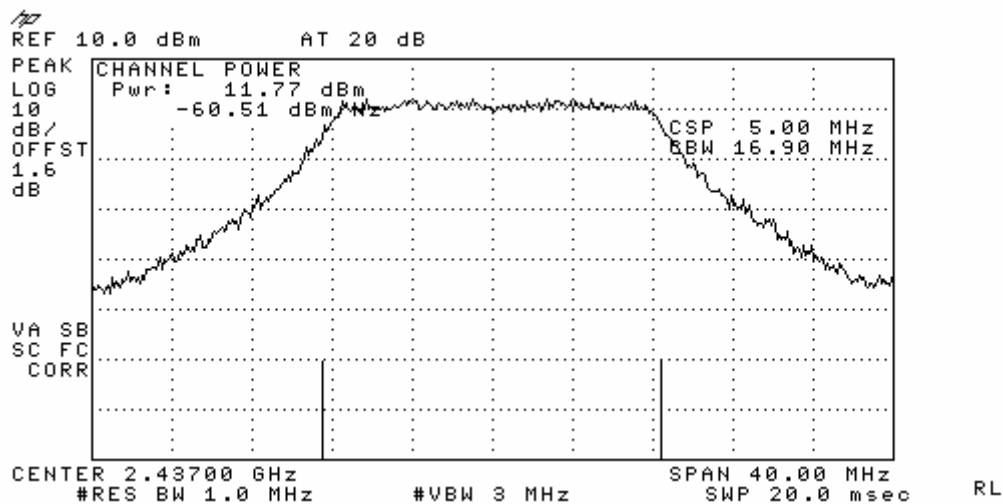


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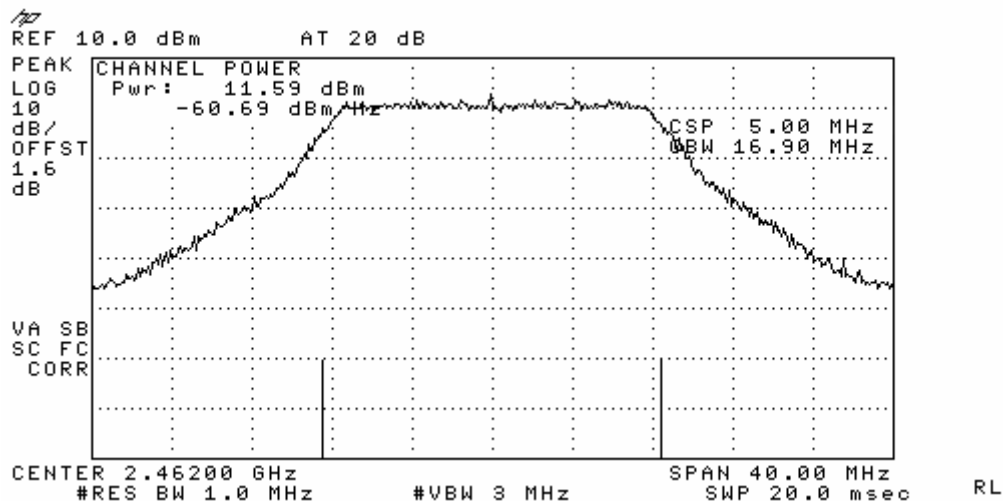
CH 1



CH 6



CH 11



### 3.2.3 Power Spectral Density

#### Procedure:

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

The spectrum analyzer is set to:

RBW = 3 kHz

Span = 300 kHz

VBW = 10 kHz

Sweep = 1000 sec

Detector function = peak

Trace = max hold

#### Measurement Data:

Mode	Frequency (MHz)	Ch.	Test Results	
			dBm	Result
802.11b	2412	1	-15.51	Complies
	2437	6	-17.44	Complies
	2462	11	-16.53	Complies
802.11b	2412	1	-19.33	Complies
	2437	6	-21.4	Complies
	2462	11	-24.6	Complies

- See next pages for actual measured spectrum plots.

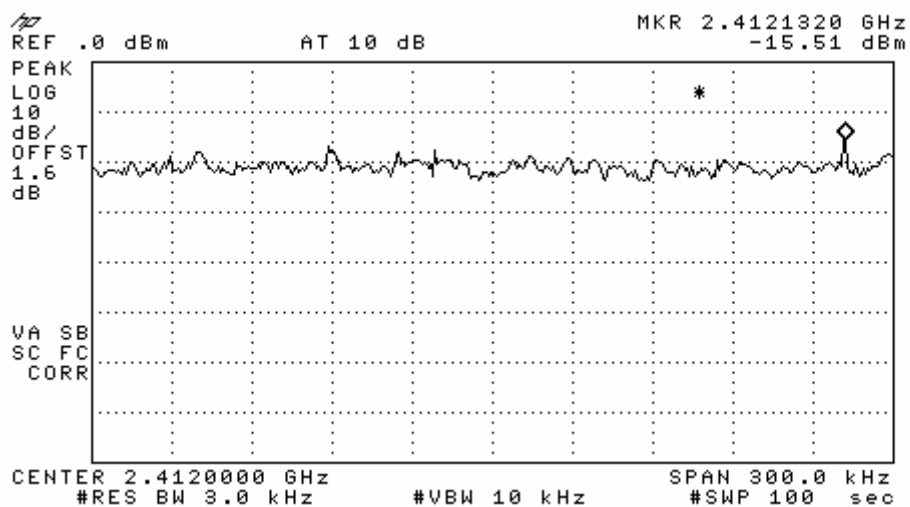
#### Minimum Standard:

Power Spectral Density	< 8dBm @ 3kHz BW
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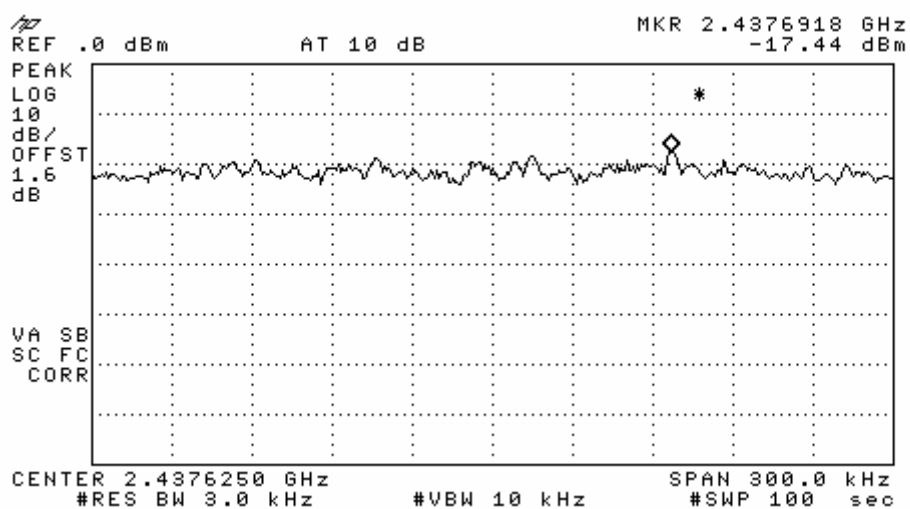
#### Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

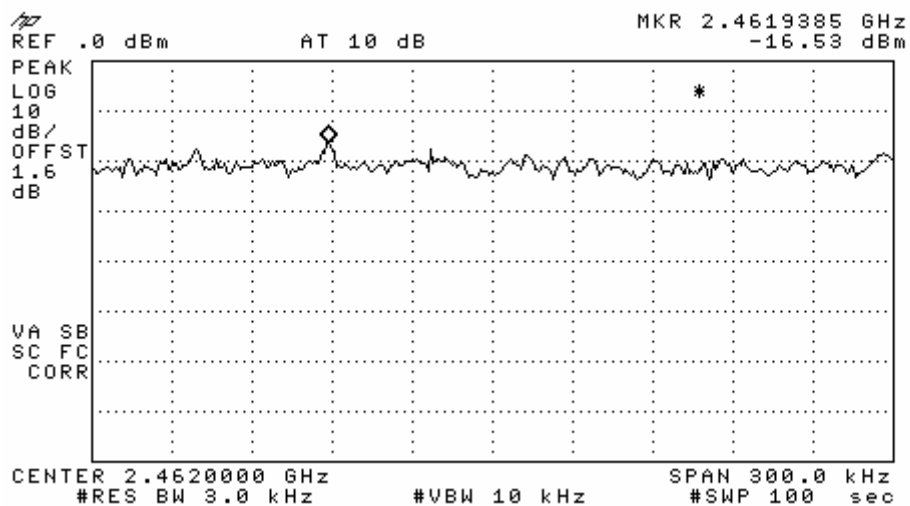
### 802.11b Power Density Measurement



RL

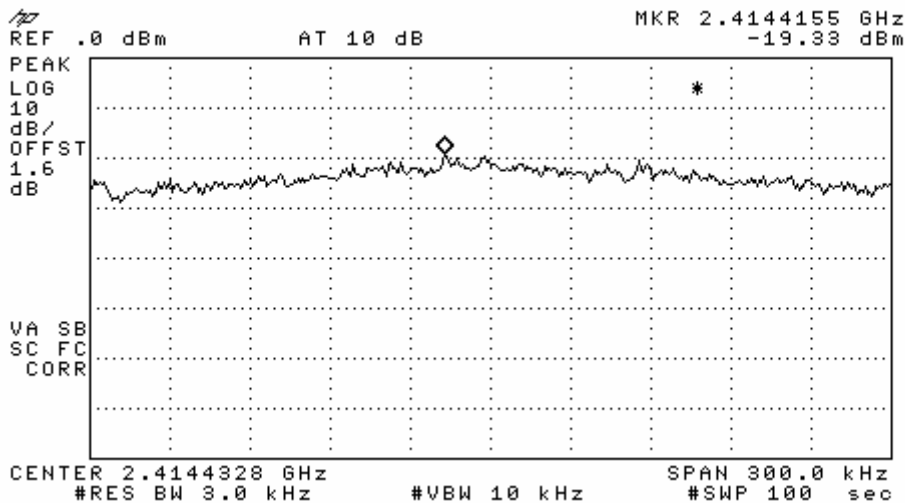


RL

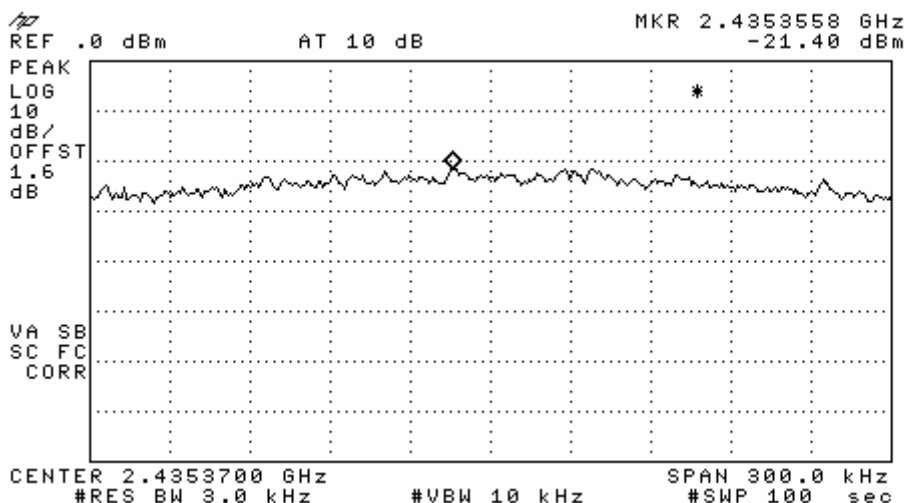


RL

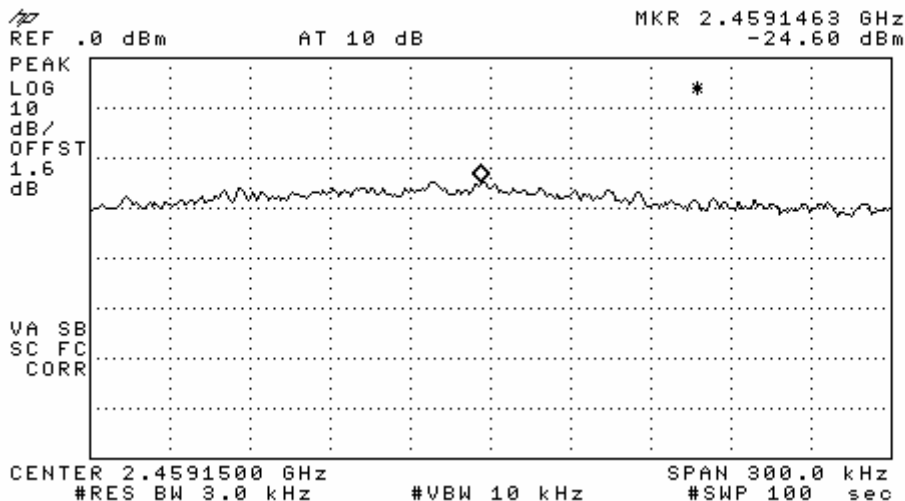
### 802.11g Power Density Measurement



RL



RL



RL

### 3.2.4 Band - edge & Spurious

#### Procedure:

The bandwidth at 20dB down from the highest inband spectral density is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate frequencies.

After the trace being stable, Use the marker-to-peak function to measure 20 dB down both sides of the intentional emission.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 100 kHz

VBW = 100 kHz

Span = 40 MHz

Detector function = peak

Trace = max hold

Sweep = auto

Radiated emissions which fall in the restricted bands, as defined in 15.205(a), must also comply with the radiated emission limits specified in 15.209(a)

The spectrum analyzer is set to:

Center frequency = the highest, the lowest channels

PEAK: RBW = VBW = 1MHz, Sweep=Auto

Average: RBW = 1MHz, VBW=10Hz, Sweep=Auto

Measurement Distance: 3m

Polarization: Horizontal / Vertical

#### Measurement Data: Complies

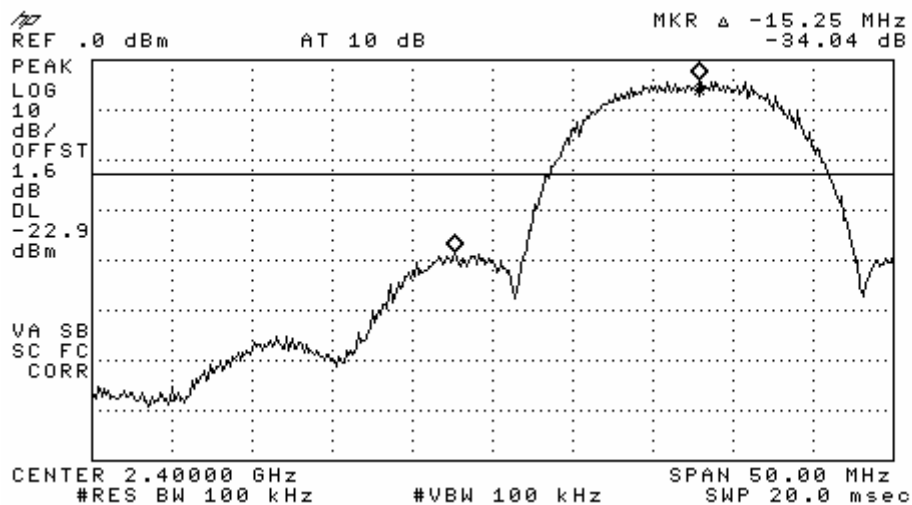
- All conducted emission in any 100kHz bandwidth outside of the spread spectrum band was at least 20dB lower than the highest inband spectral density. Therefore the applying equipment meets the requirement.
- See next pages for actual measured spectrum plots.

<b>Minimum Standard:</b>	> 20 dBc
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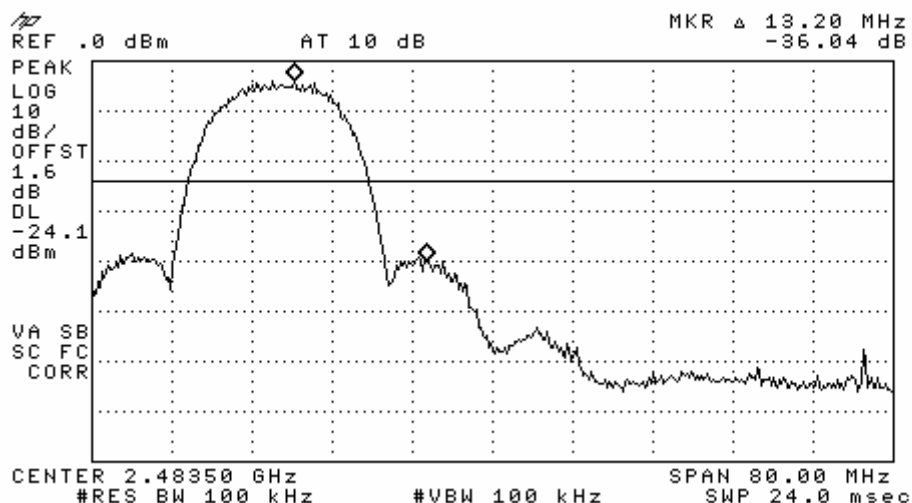
#### Minimum Standard: FCC Part 15.209(a)

Frequency (MHz)	Limit (uV/m) @ 3m
30 ~ 88	100 **
88 ~ 216	150 **
216 ~ 960	200 **
Above 960	500

### 802.11b Band-edge : Conducted Measurements



RL

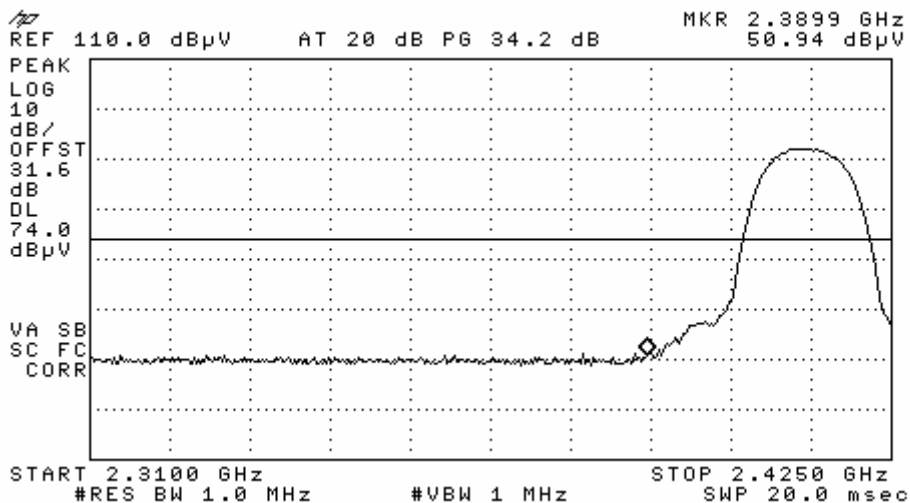


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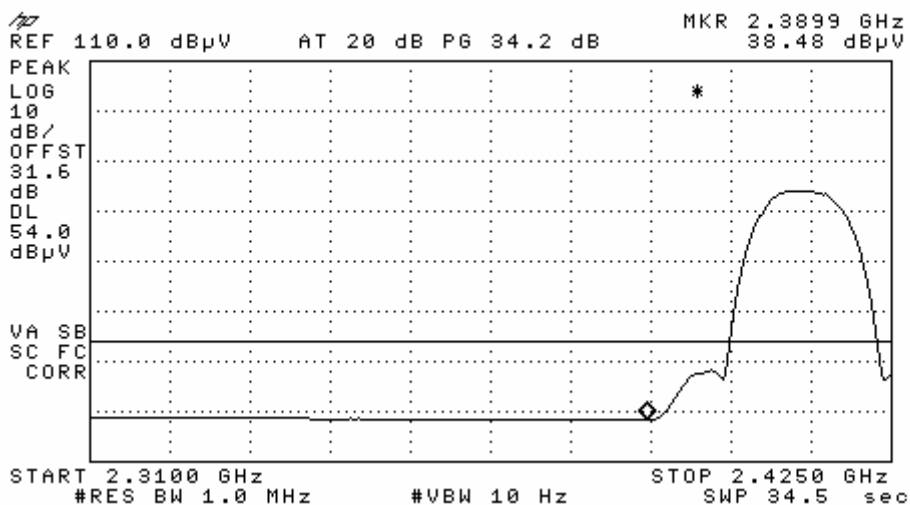
### 802.11b Band-edge : Radiated Measurements (Restricted bands)

#### CH 1 / Horizontal / Peak data



L

#### CH 1 / Horizontal / Average data



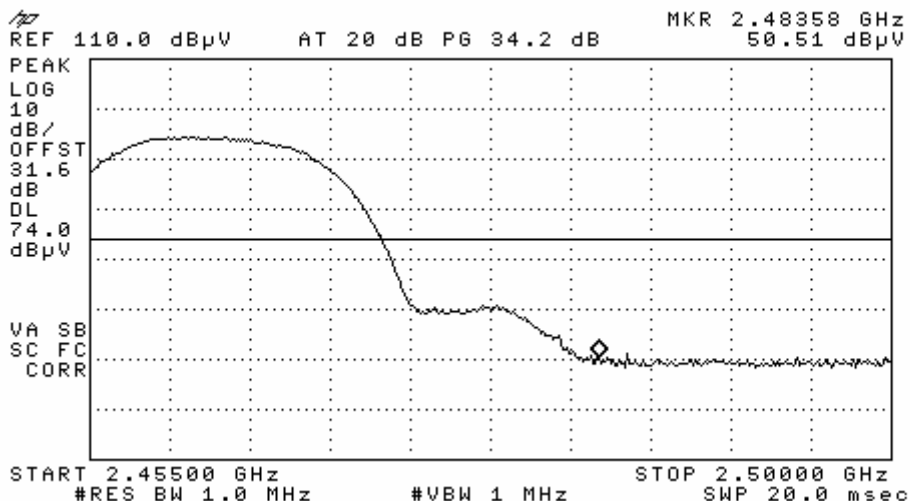
L





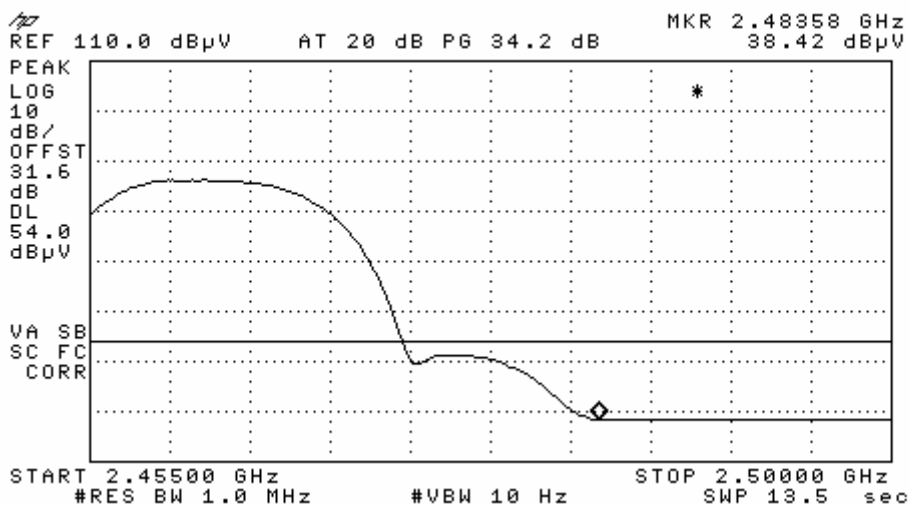
**802.11b Band-edge : Radiated Measurements (Restricted bands)**

**CH 11 / Vertical / Peak data**



L

**CH 11 / Vertical / Average data**



L





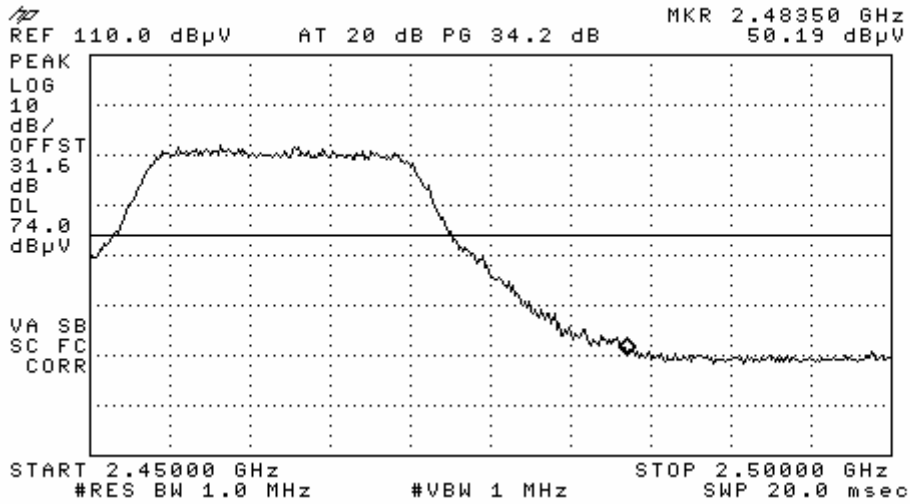






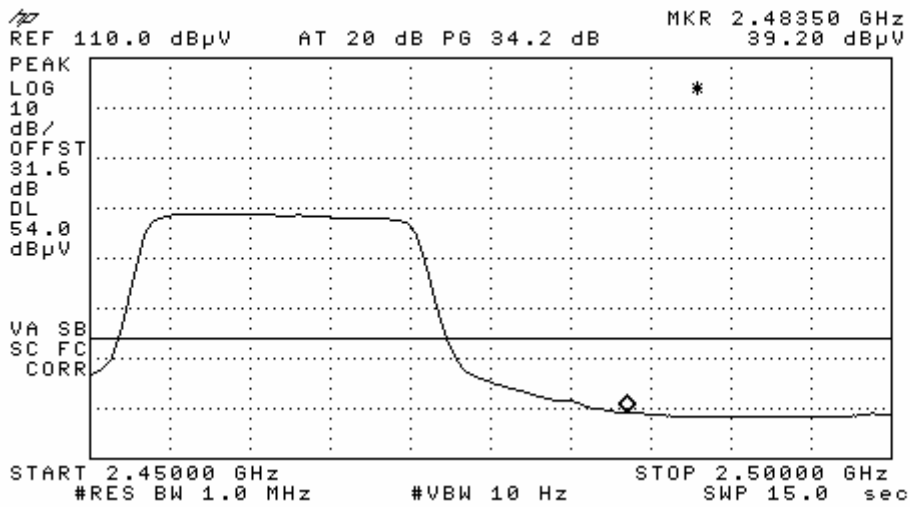
**802.11g Band-edge : Radiated Measurements (Restricted bands)**

**CH 11 / Vertical / Peak data**



L

**CH 11 / Vertical / Average data**

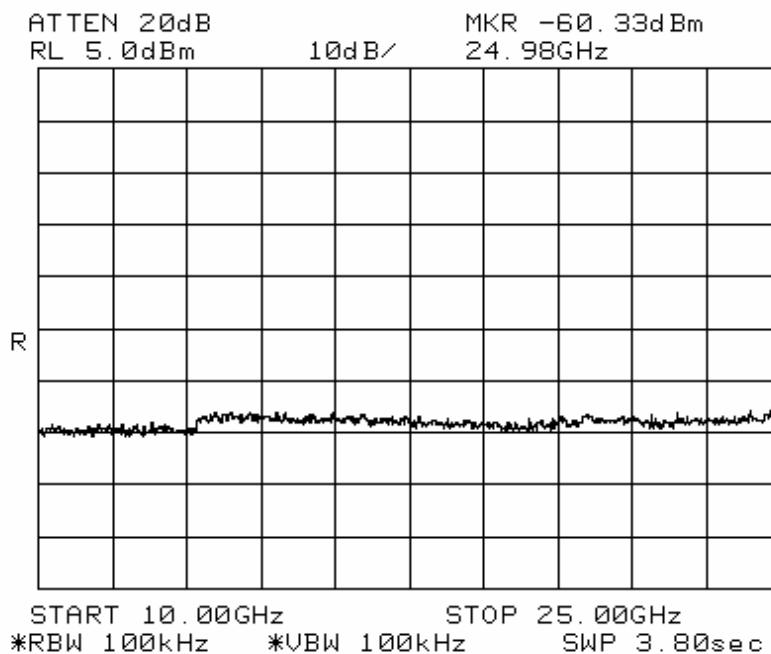
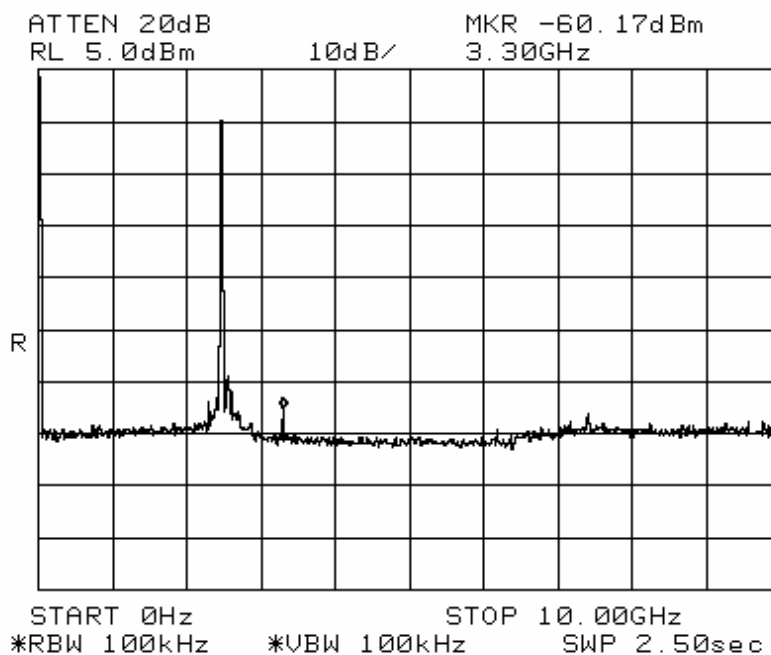


L

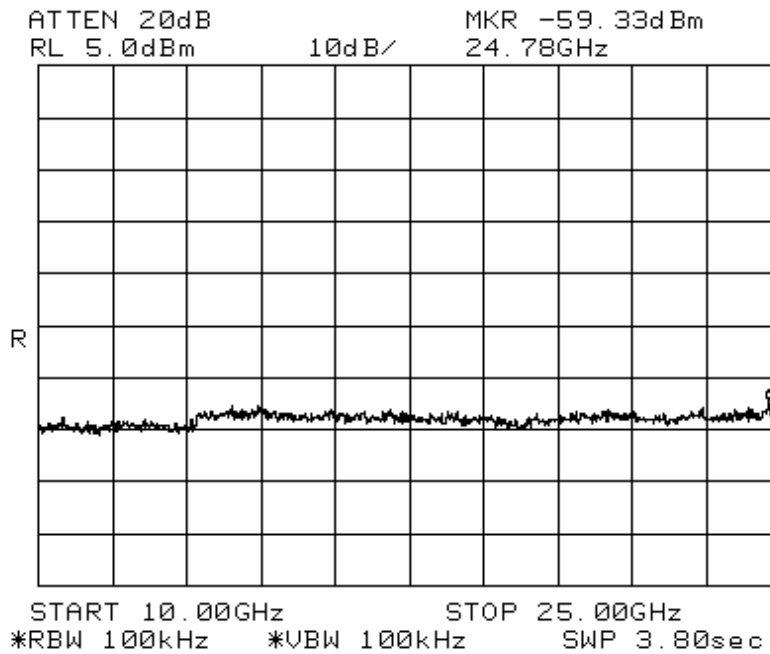
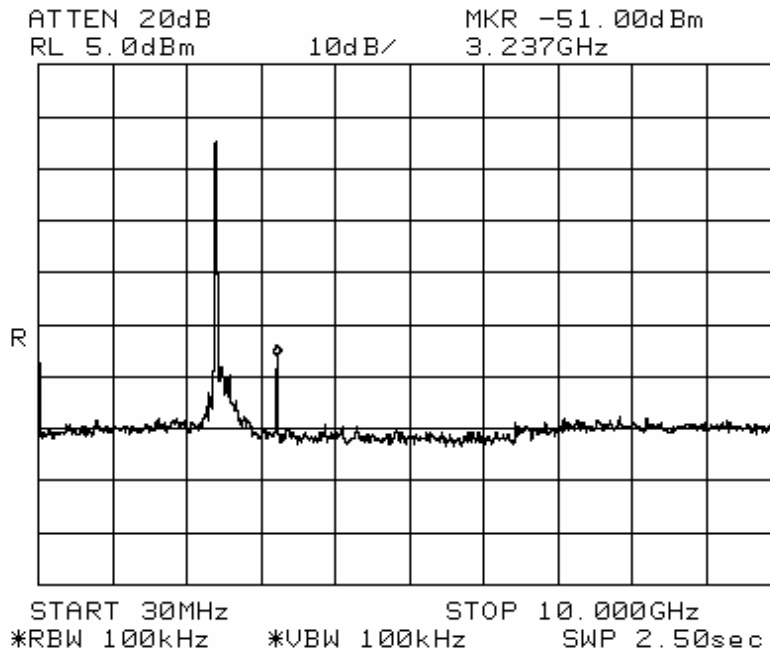




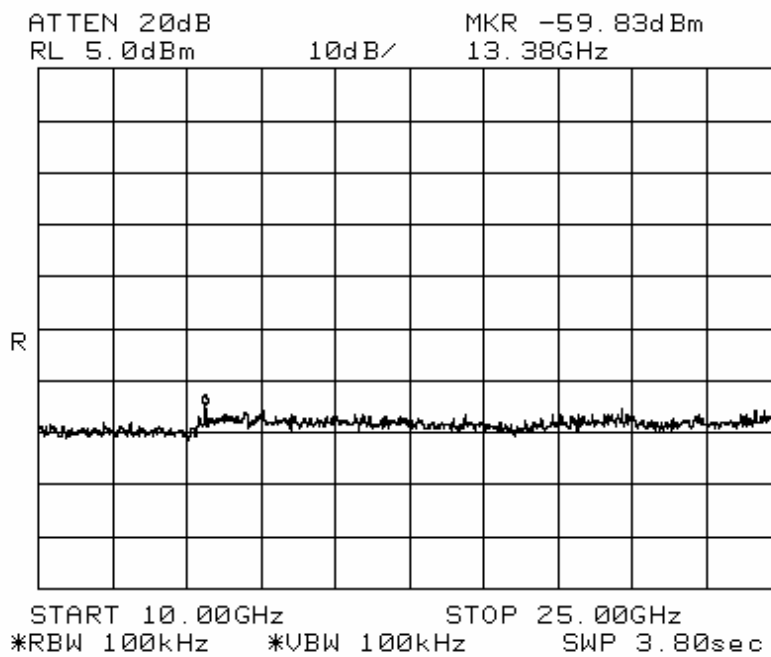
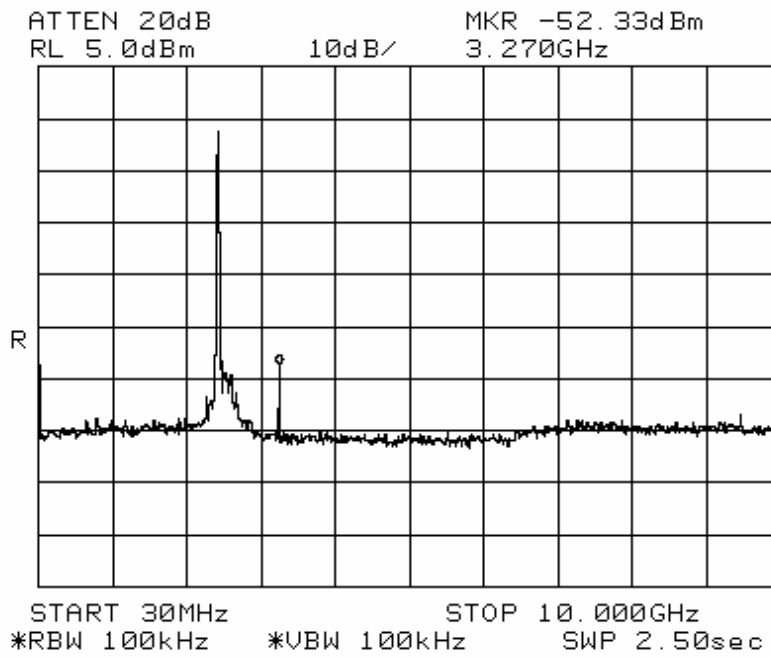
**802.11b – High channel**  
**Frequency Range = 30 MHz ~ 10<sup>th</sup> harmonic.**



**802.11g - Low channel**  
**Frequency Range = 30 MHz ~ 10<sup>th</sup> harmonic.**



**802.11g - Mid channel**  
**Frequency Range = 30 MHz ~ 10<sup>th</sup> harmonic.**





### 3.2.5 Field Strength of Harmonics

#### Procedure:

The EUT was placed on a 0.8m high wooden table inside a shielded enclosure. An antenna was placed near the EUT and measurements of frequencies and amplitudes of field strengths were recorded for reference during final measurements. For final radiated testing, measurements were performed in OATS. Measurements were performed with the EUT oriented in 3 orthogonal axis and rotated 360 degrees to determine worst-case orientation for maximum emissions.

The spectrum analyzer is set to:

Center frequency = the worst channel

Frequency Range = 30 MHz ~ 10<sup>th</sup> harmonic.

RBW = 100 kHz ( 30MHz ~ 1 GHz)

VBW ≥ RBW

= 1 MHz (1 GHz ~ 10<sup>th</sup> harmonic )

Span = 100 MHz

Detector function = peak

Trace = max hold

Sweep = auto

#### Measurement Data: Complies

- See next pages for actual measured data.

#### Minimum Standard: FCC Part 15.209(a)

Frequency (MHz)	Limit (uV/m) @ 3m
30 ~ 88	100 **
88 ~ 216	150 **
216 ~ 960	200 **
Above 960	500

\*\* Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88MHz, 174-216MHz or 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

#### Minimum Standard: FCC Part 15.109

Frequency (MHz)	Limit (uV/m) @ 10m
30 ~ 88	90
88 ~ 216	150
216 ~ 960	210
Above 960	300



**802.11b Measurement Data:**

Low channel		Mid channel		High channel	
Frequency (MHz)	Level (dBuV)	Frequency (MHz)	Level (dBuV)	Frequency (MHz)	Level (dBuV)
-	-	-	-	-	-
-	-	-	-	-	-
No emissions were detected at a level greater than 20dB below limit.					
-	-	-	-	-	-
-	-	-	-	-	-
Measurement uncertainty		$\pm 6$ dB			

**802.11g Measurement Data:**

Low channel		Mid channel		High channel	
Frequency (MHz)	Level (dBuV)	Frequency (MHz)	Level (dBuV)	Frequency (MHz)	Level (dBuV)
-	-	-	-	-	-
-	-	-	-	-	-
No emissions were detected at a level greater than 20dB below limit.					
-	-	-	-	-	-
-	-	-	-	-	-
Measurement uncertainty		$\pm 6$ dB			

**Radiated Emissions –WLAN 802.11b**



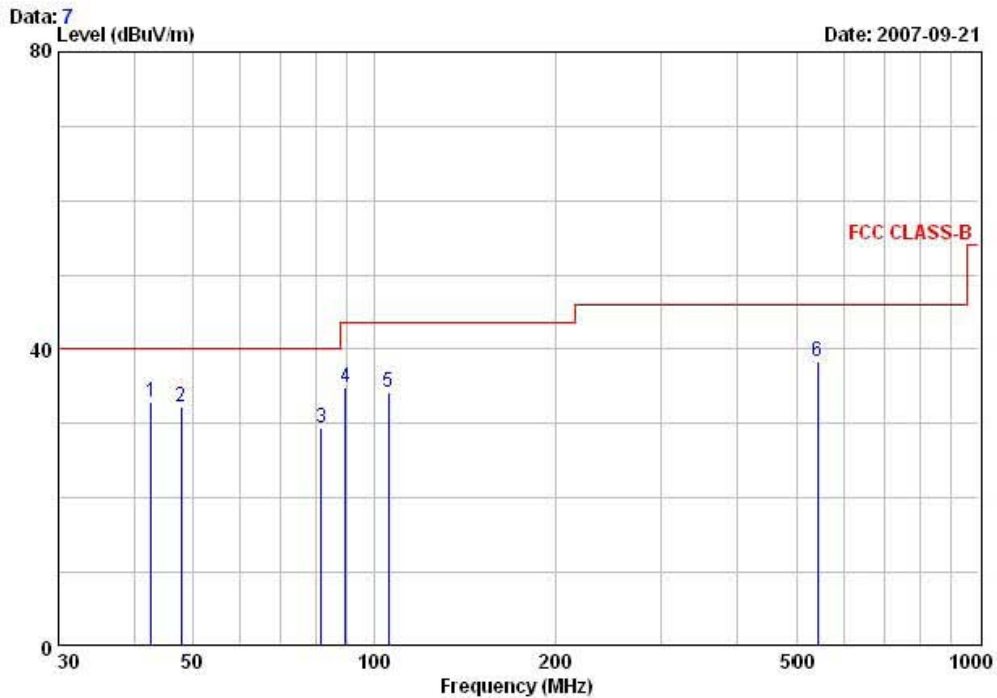
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Gyeonggi-do 449-822 Korea  
Tel :+82-31-3236008,9  
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EUT/Model No.: COWON Q5W

TEST MODE: WLAN 802.11b mode

Temp Humi : 16 / 79

Tested by: B.S.KIM



	Freq	Reading	C.F	Result	Limit	Margin	Height	Angle	Polarity
	MHz	dBuV	dB	QK dBuV/m	dBuV/m	dB	cm	deg	
1	42.80	45.50	-12.67	32.83	40.00	7.17	100	204	VERTICAL
2	48.00	45.10	-12.74	32.36	40.00	7.64	100	304	VERTICAL
3	81.81	45.70	-16.33	29.37	40.00	10.63	100	207	VERTICAL
4	89.72	50.80	-15.82	34.98	43.50	8.52	100	208	VERTICAL
5	105.83	48.25	-14.07	34.18	43.50	9.32	100	304	VERTICAL
6	541.25	43.10	-4.68	38.42	46.00	7.58	282	149	HORIZONTAL

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

**Radiated Emissions –WLAN 802.11g**



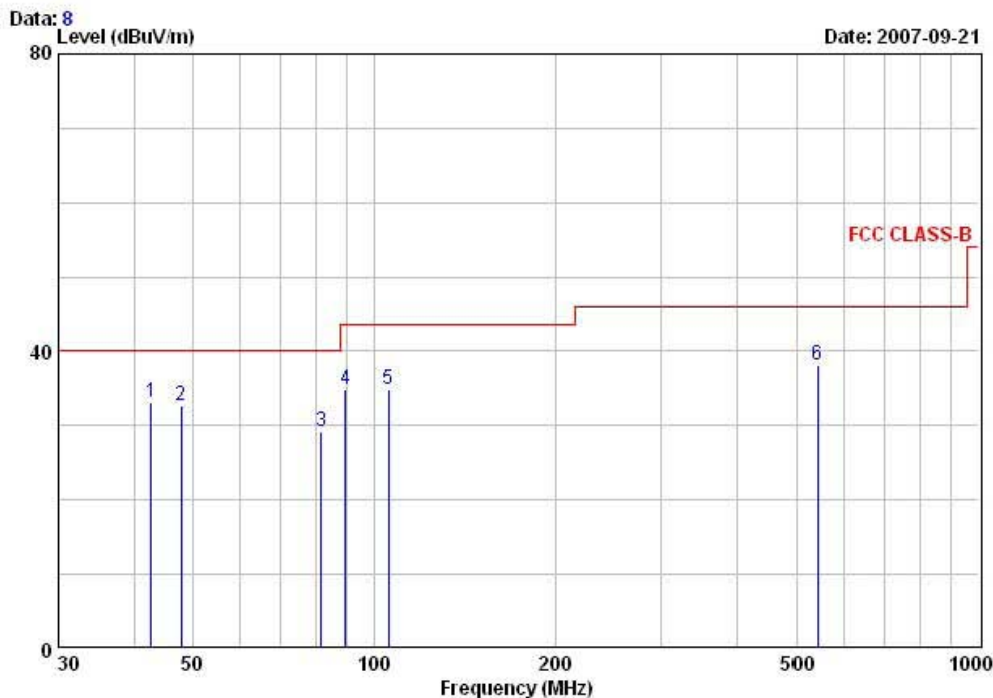
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Gyeonggi-do 449-822 Korea  
Tel :+82-31-3236008,9  
Fax:+82-31-3236010

EUT/Model No.: COWON Q5W

TEST MODE: WLAN 802.11g mode

Temp Humi : 16 / 79

Tested by: B.S.KIM



	Freq	Reading	C.F	Result	Limit	Margin	Height	Angle	Polarity
	MHz	dBuV	dB	QK dBuV/m	dBuV/m	dB	cm	deg	
1	42.80	45.70	-12.67	33.03	40.00	6.97	100	204	VERTICAL
2	48.00	45.50	-12.74	32.76	40.00	7.24	100	304	VERTICAL
3	81.81	45.50	-16.33	29.17	40.00	10.83	100	207	VERTICAL
4	89.72	50.70	-15.82	34.88	43.50	8.62	100	208	VERTICAL
5	105.83	48.90	-14.07	34.83	43.50	8.67	100	304	VERTICAL
6	541.25	42.80	-4.68	38.12	46.00	7.88	282	149	HORIZONTAL

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

**Radiated Emissions –WLAN 802.11b + BT**

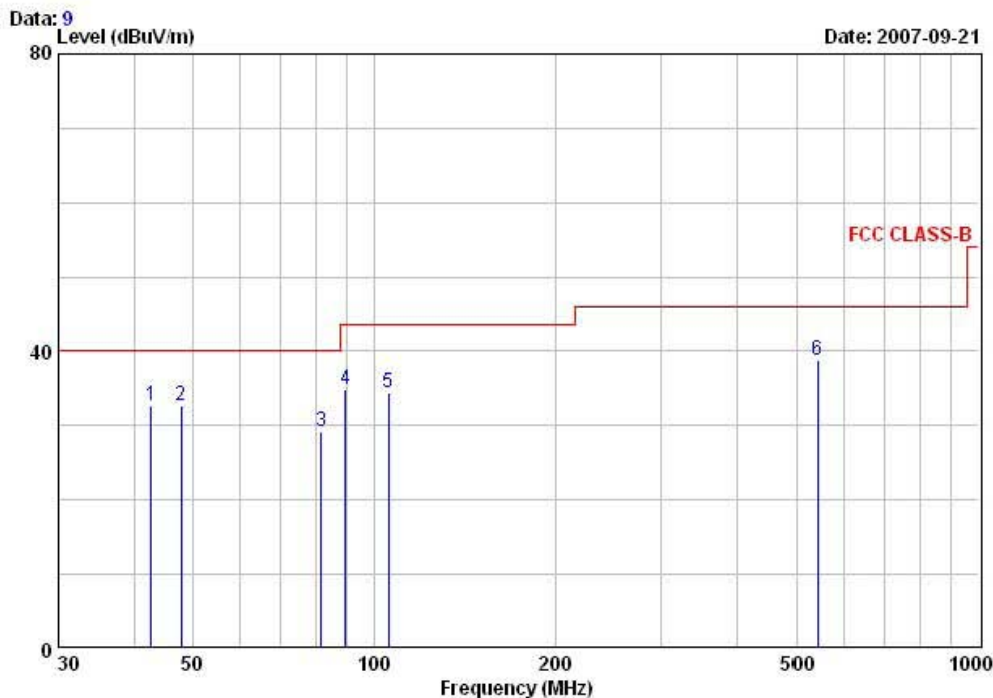


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Tel :+82-31-3236008,9  
Fax:+82-31-3236010

EUT/Model No.: COWON Q5W TEST MODE: WLAN 802.11b + BT mode

Temp Humi : 16 / 79

Tested by: B.S.KIM



Peak	Freq MHz	Reading dBuV	C.F dB	Result QK dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Polarity
1	42.80	45.30	-12.67	32.63	40.00	7.37	100	204	VERTICAL
2	48.00	45.40	-12.74	32.66	40.00	7.34	100	304	VERTICAL
3	81.81	45.50	-16.33	29.17	40.00	10.83	100	207	VERTICAL
4	89.72	50.70	-15.82	34.88	43.50	8.62	100	208	VERTICAL
5	105.83	48.50	-14.07	34.43	43.50	9.07	100	304	VERTICAL
6	541.25	43.50	-4.68	38.82	46.00	7.18	282	149	HORIZONTAL

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

**Radiated Emissions –WLAN 802.11g + BT**



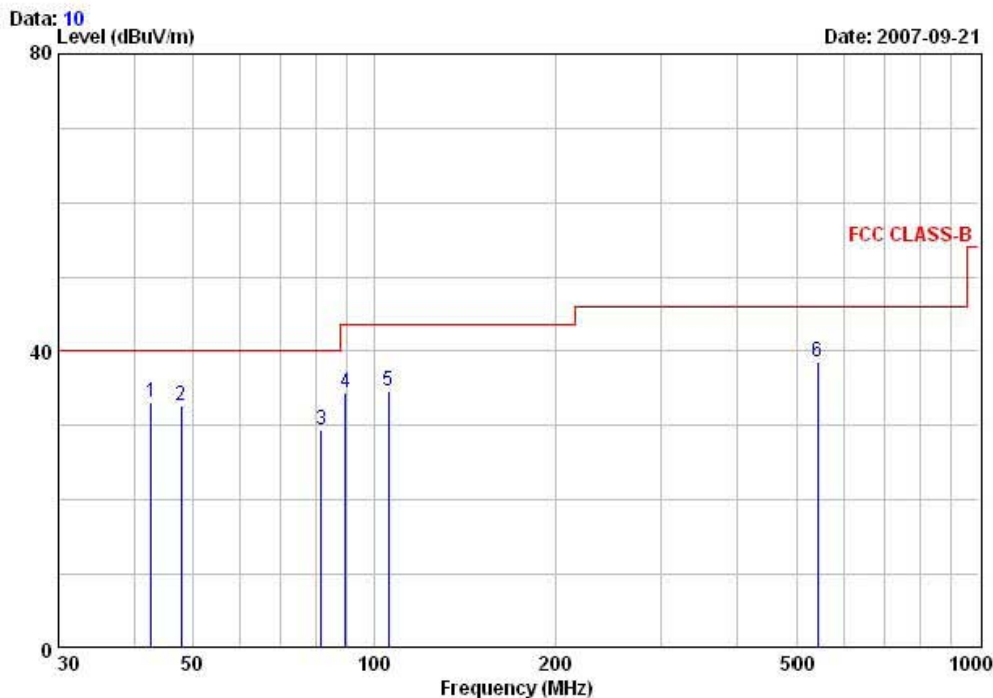
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Gyeonggi-do 449-822 Korea  
Tel :+82-31-3236008,9  
Fax:+82-31-3236010

EUT/Model No.: COWON Q5W

TEST MODE: WLAN 802.11g +BT mode

Temp Humi : 16 / 79

Tested by: B.S.KIM



	Freq	Reading	C.F	Result	Limit	Margin	Height	Angle	Polarity
	MHz	dBuV	dB	QK dBuV/m	dBuV/m	dB	cm	deg	
1	42.80	45.80	-12.67	33.13	40.00	6.87	100	204	VERTICAL
2	48.00	45.40	-12.74	32.66	40.00	7.34	100	304	VERTICAL
3	81.81	45.70	-16.33	29.37	40.00	10.63	100	207	VERTICAL
4	89.72	50.20	-15.82	34.38	43.50	9.12	100	208	VERTICAL
5	105.83	48.70	-14.07	34.63	43.50	8.87	100	304	VERTICAL
6	541.25	43.20	-4.68	38.52	46.00	7.48	282	149	HORIZONTAL

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

### Radiated Emissions



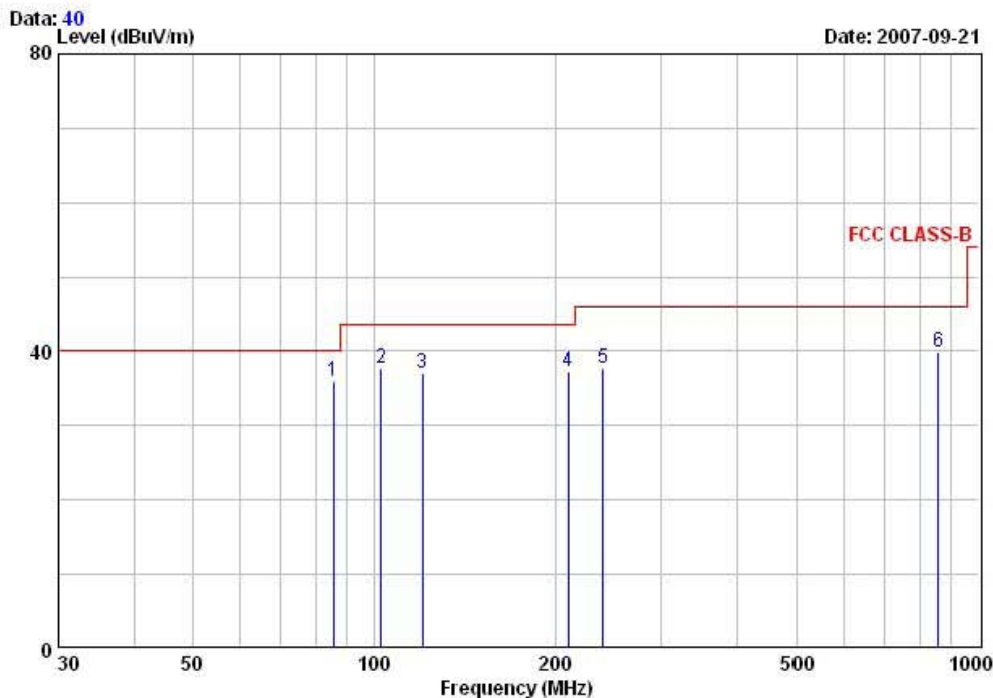
243 Jubug-ni, yangji-Myeon, Youngin-si,  
Gyeonggi-do 449-822 Korea  
Tel :+82-31-3236008,9  
Fax:+82-31-3236010

EUT/Model No.: COWON Q5W

TEST MODE: File up / down mode

Temp Humi : 33 / 82

Tested by: B.S.KIM



Freq	Reading	C.F	Result	Limit	Margin	Height	Angle	Polarity
MHz	dBuV	dB	QK dBuV/m	dBuV/m	dB	cm	deg	
1	85.66	52.30	-16.31	35.99	40.00	4.01	372	350 HORIZONTAL
2	102.98	52.10	-14.36	37.74	43.50	5.76	276	210 HORIZONTAL
3	120.26	49.70	-12.54	37.16	43.50	6.34	362	289 HORIZONTAL
4	210.08	50.20	-12.90	37.30	43.50	6.20	320	326 HORIZONTAL
5	240.09	49.20	-11.43	37.77	46.00	8.23	121	360 HORIZONTAL
6	856.97	38.50	1.42	39.92	46.00	6.08	101	210 HORIZONTAL

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

### 3.2.6 AC Conducted Emissions

#### Procedure:

The conducted emissions are measured in the shielded room with a spectrum analyzer in peak hold. While the measurement, EUT had its hopping function disabled at the middle channels in line with Section 15.31(m). Emissions closest to the limit are measured in the quasi-peak mode (QP) with the tuned receiver using a bandwidth of 9 kHz. The emissions are maximized further by cable manipulation and Exerciser operation. The highest emissions relative to the limit are listed.

#### Measurement Data: Complies

- See next pages for actual measured spectrum plots.
- No emissions were detected at a level greater than 10dB below limit.

#### Minimum Standard: FCC Part 15.207(a)/EN 55022

##### Class B

Frequency Range	quasi-peak	Average
0.15 ~ 0.5	66 to 56 *	56 to 46 *
0.5 ~ 5	56	46
5 ~ 30	60	50

\* Decreases with the logarithm of the frequency

##### Class A

Frequency Range	quasi-peak	Average
0.15 ~ 0.5 MHz	79 dBuV	66 dBuV
0.5 ~ 30 MHz	73 dBuV	60 dBuV

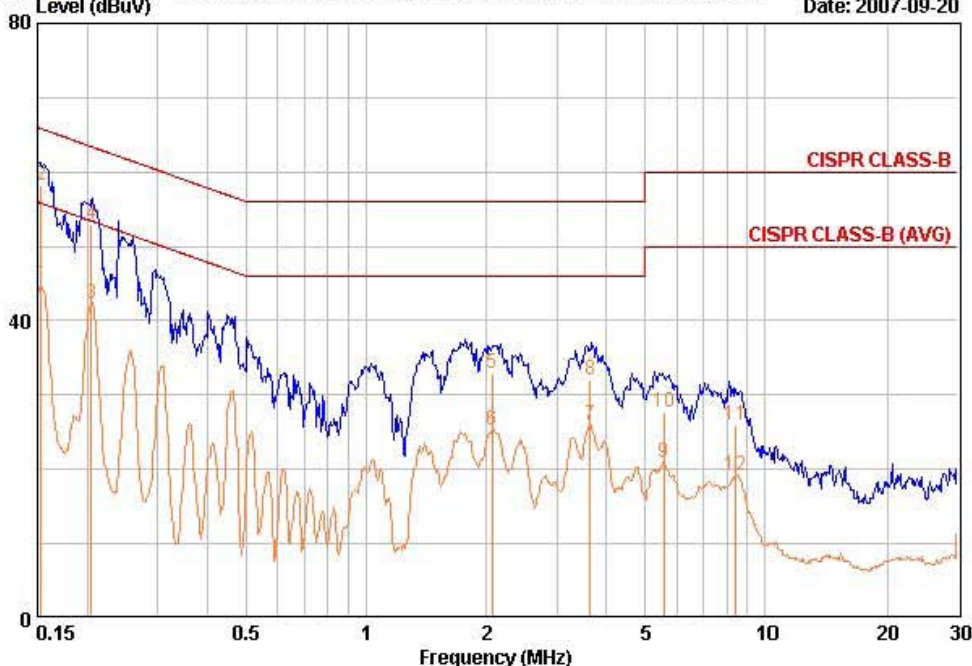
### AC Conducted Emissions –WLAN 802.11b -Line



243 Jubug-ni, yangji-Myeon, Youngin-si,  
Gyeonggi-do 449-822 Korea  
Tel :+82-31-323-6008  
Fax:+82-31-323-6010

EUT / Model No. : COWON Q5W	Phase : LINE
Test Mode : WLAN 802.11b mode	Test Power : 120 / 60
Temp./Humi. : 25 / 63	Test Engineer : B.S.KIM

Data: 18 File: E:\00\_e3 EMI DATA\2007\LTA\_Conduction\_0710\_1.EMI (18) Date: 2007-09-20



Freq MHz	RD		C.F	Result		Limit		Margin	
	QP dBuV	AV dBuV		QP dBuV	AV dBuV	QP dBuV	AV dBuV	QP dB	AV dB
0.153	57.60	44.35	0.56	58.16	44.91	65.82	55.82	7.66	10.91
0.205	52.80	42.19	0.19	52.99	42.37	63.40	53.40	10.42	11.03
2.066	32.50	24.81	0.45	32.95	25.25	56.00	46.00	23.05	20.75
3.642	31.60	25.46	0.50	32.10	25.96	56.00	46.00	23.90	20.04
5.564	27.10	20.44	0.57	27.67	21.01	60.00	50.00	32.33	28.99
8.456	25.30	18.62	0.62	25.92	19.24	60.00	50.00	34.08	30.76

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss



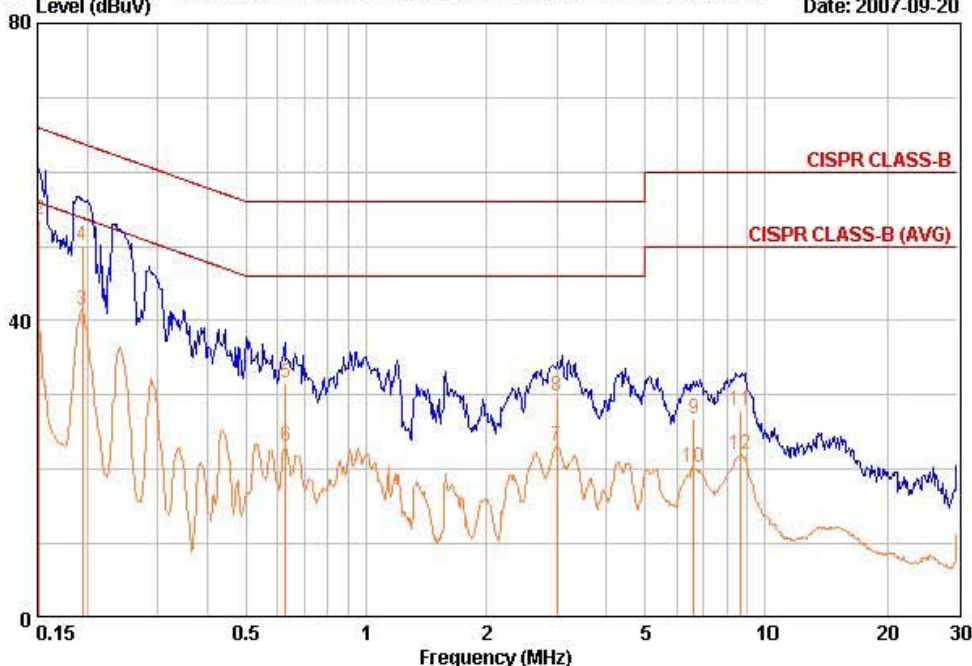
### AC Conducted Emissions – WLAN 802.11b - Neutral



243 Jubug-ni, yangji-Myeon, Youngin-si,  
Gyeonggi-do 449-822 Korea  
Tel :+82-31-323-6008  
Fax:+82-31-323-6010

EUT / Model No. : COWON Q5W	Phase : NEUTRAL
Test Mode : WLAN 802.11b mode	Test Power : 120 / 60
Temp./Humi. : 25 / 63	Test Engineer : B.S.KIM

Data: 16 File: E:\00\_e3 EMI DATA\2007\LTA\_Conduction\_0710\_1.EMI (16) Date: 2007-09-20



Freq MHz	RD		C.F	Result		Limit		Margin	
	QP dBuV	AV dBuV		QP dBuV	AV dBuV	QP dBuV	AV dBuV	QP dB	AV dB
0.152	53.00	38.57	0.56	53.56	39.13	65.91	55.91	12.35	16.78
0.194	50.00	41.16	0.22	50.22	41.38	63.84	53.84	13.62	12.46
0.627	31.30	22.75	0.29	31.59	23.04	56.00	46.00	24.41	22.96
3.009	29.20	22.52	0.64	29.84	23.15	56.00	46.00	26.16	22.85
6.627	26.30	19.70	0.52	26.82	20.22	60.00	50.00	33.18	29.78
8.683	27.40	21.36	0.58	27.98	21.93	60.00	50.00	32.02	28.07

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

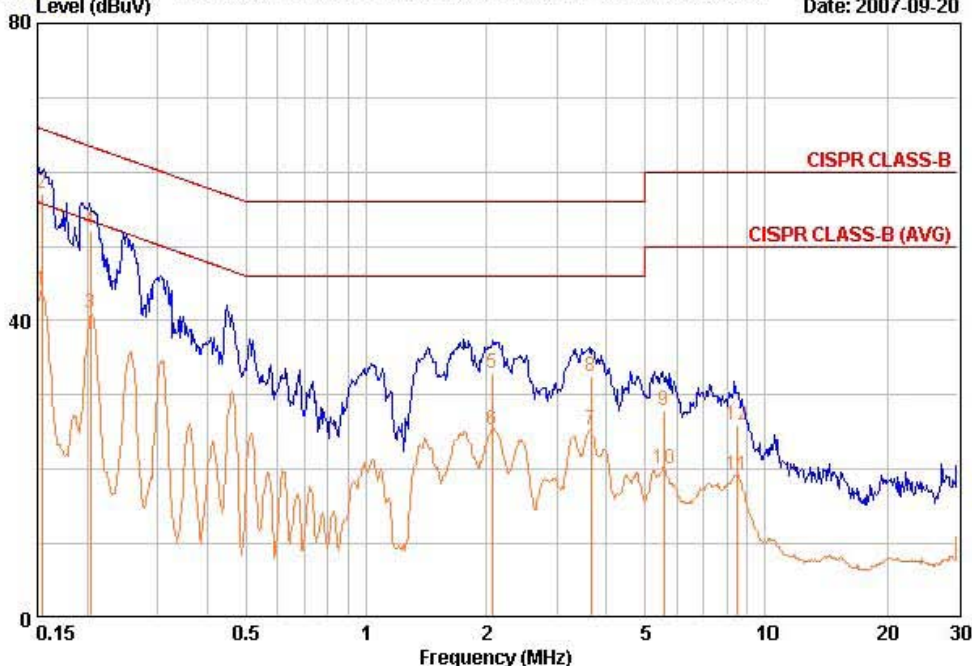
### AC Conducted Emissions – WLAN 802.11g - Line



243 Jubug-ni, yangji-Myeon, Youngin-si,  
Gyeonggi-do 449-822 Korea  
Tel +82-31-323-6008  
Fax:+82-31-323-6010

EUT / Model No. : COWON Q5W	Phase : LINE
Test Mode : WLAN 802.11g mode	Test Power : 120 / 60
Temp./Humi. : 25 / 63	Test Engineer : B.S.KIM

Data: 20 File: E:\00\_e3 EMI DATA\2007\LTA\_Conduction\_0710\_1.EMI (20) Date: 2007-09-20



Freq MHz	RD		C.F	Result		Limit		Margin	
	QP dBuV	AV dBuV		QP dBuV	AV dBuV	QP dBuV	AV dBuV	QP dB	AV dB
0.154	56.60	43.42	0.55	57.15	43.97	65.78	55.78	8.63	11.81
0.204	52.00	40.90	0.18	52.18	41.08	63.45	53.45	11.26	12.36
2.066	32.50	24.89	0.45	32.95	25.34	56.00	46.00	23.05	20.66
3.661	31.90	24.70	0.50	32.40	25.20	56.00	46.00	23.60	20.80
5.564	27.30	19.58	0.57	27.87	20.15	60.00	50.00	32.13	29.85
8.501	25.40	18.62	0.62	26.02	19.24	60.00	50.00	33.98	30.76

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

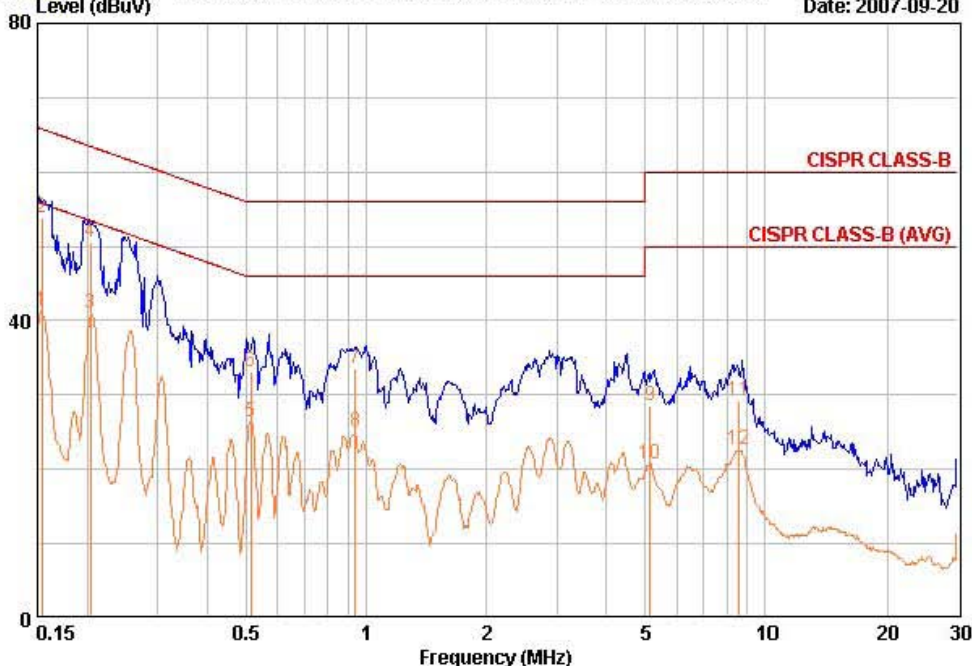
### AC Conducted Emissions – WLAN 802.11g - Neutral



243 Jubug-ni, yangji-Myeon, Youngin-si,  
Gyeonggi-do 449-822 Korea  
Tel +82-31-323-6008  
Fax:+82-31-323-6010

EUT / Model No. : COWON Q5W	Phase : NEUTRAL
Test Mode : WLAN 802.11g mode	Test Power : 120 / 60
Temp./Humi. : 25 / 63	Test Engineer : B.S.KIM

Data: 22 File: E:\00\_e3 EMI DATA\2007\LTA\_Conduction\_0710\_1.EMI (28) Date: 2007-09-20



Freq MHz	RD		C.F	Result		Limit		Margin	
	QP dBuV	AV dBuV		QP dBuV	AV dBuV	QP dBuV	AV dBuV	QP dB	AV dB
0.154	53.30	40.66	0.54	53.84	41.20	65.78	55.78	11.94	14.58
0.204	50.40	40.83	0.18	50.58	41.01	63.45	53.45	12.86	12.43
0.513	32.80	26.02	0.28	33.08	26.30	56.00	46.00	22.92	19.70
0.938	33.30	24.69	0.36	33.66	25.05	56.00	46.00	22.34	20.95
5.139	28.00	20.25	0.51	28.51	20.76	60.00	50.00	31.49	29.24
8.546	28.60	22.08	0.59	29.19	22.67	60.00	50.00	30.81	27.33

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

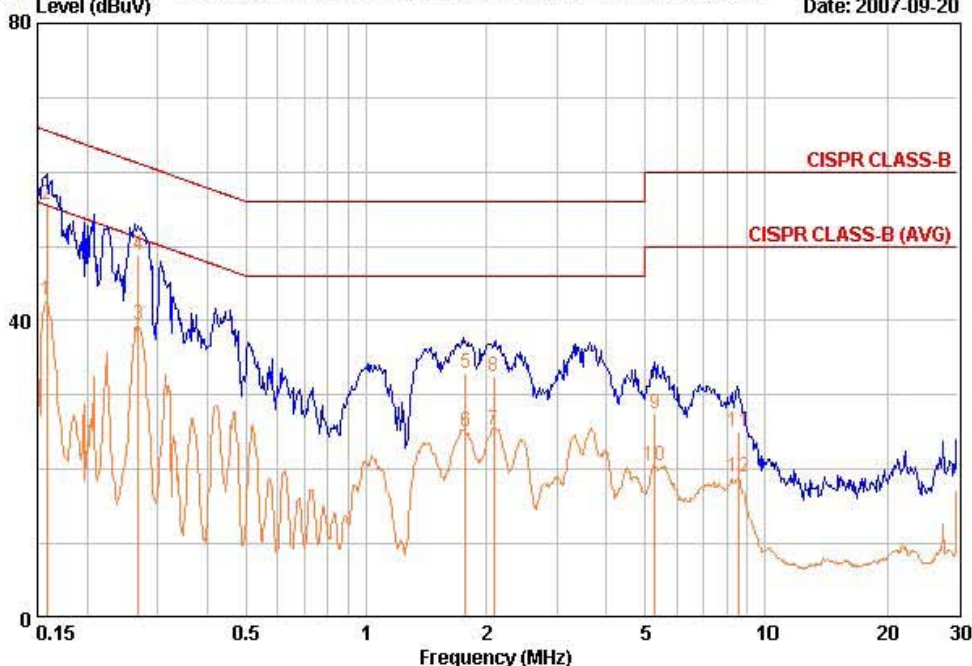
**AC Conducted Emissions – WLAN 802.11b + BT - Line**



243 Jubug-ni, yangji-Myeon, Youngin-si,  
Gyeonggi-do 449-822 Korea  
Tel +82-31-323-6008  
Fax:+82-31-323-6010

EUT / Model No. : COWON Q5W Phase : LINE  
 Test Mode : WLAN 802.11b + BT mode Test Power : 120 / 60  
 Temp./Humi. : 25 / 63 Test Engineer : B.S.KIM

Data: 28 File: E:\00\_e3 EMI DATA\2007\LTA\_Conduction\_0710\_1.EMI (28) Date: 2007-09-20



Freq MHz	RD		C.F	Result		Limit		Margin	
	QP dBuV	AV dBuV		QP dBuV	AV dBuV	QP dBuV	AV dBuV	QP dB	AV dB
0.158	55.00	42.24	0.52	55.52	42.76	65.56	55.56	10.04	12.80
0.269	48.60	39.12	0.25	48.85	39.37	61.16	51.16	12.31	11.79
1.772	32.50	24.65	0.40	32.90	25.05	56.00	46.00	23.10	20.95
2.088	32.00	24.91	0.45	32.45	25.36	56.00	46.00	23.55	20.64
5.277	26.80	19.98	0.56	27.36	20.54	60.00	50.00	32.64	29.46
8.546	24.50	18.27	0.62	25.12	18.88	60.00	50.00	34.88	31.12

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss



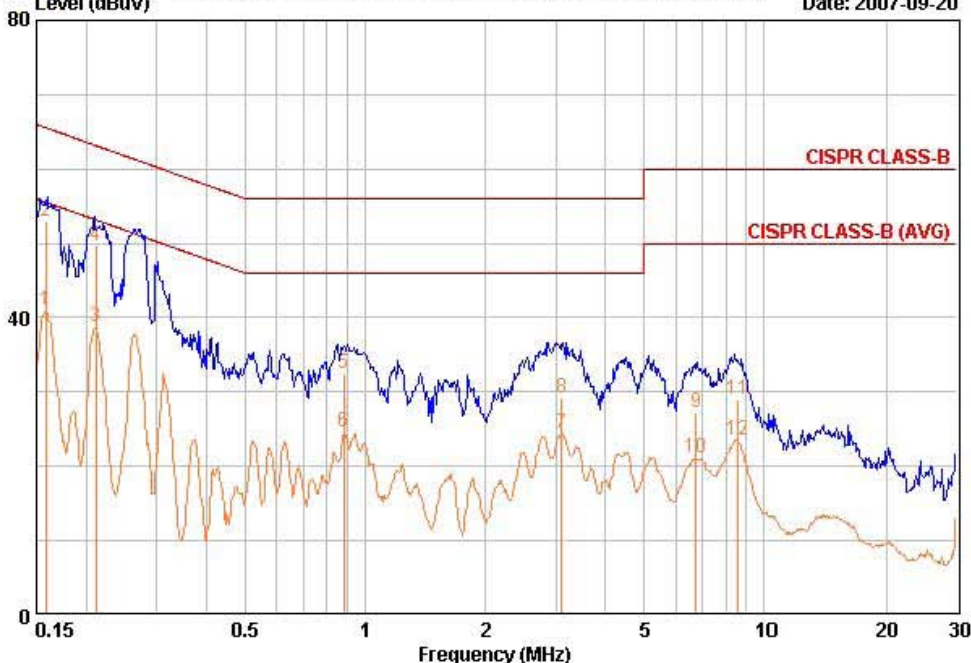
**AC Conducted Emissions – WLAN 802.11b +BT - Neutral**



243 Jubug-ni, yangji-Myeon, Youngin-si,  
Gyeonggi-do 449-822 Korea  
Tel :+82-31-323-6008  
Fax:+82-31-323-6010

EUT / Model No. : COWON Q5W Phase : NEUTRAL  
 Test Mode : WLAN 802.11b + BT mode Test Power : 120 / 60  
 Temp./Humi. : 25 / 63 Test Engineer : B.S.KIM

Data: 30 Level (dBuV) File: E:\00\_e3 EMI DATA\2007\LTA\_Conduction\_0710\_1.EMI (30) Date: 2007-09-20



Freq MHz	RD		C.F	Result		Limit		Margin	
	QP dBuV	AV dBuV		QP dBuV	AV dBuV	QP dBuV	AV dBuV	QP dB	AV dB
0.158	52.40	40.40	0.51	52.91	40.91	65.56	55.56	12.65	14.65
0.212	49.50	38.57	0.19	49.69	38.76	63.14	53.14	13.45	14.38
0.885	32.10	24.19	0.40	32.50	24.59	56.00	46.00	23.50	21.41
3.107	28.50	23.77	0.61	29.11	24.38	56.00	46.00	26.89	21.62
6.733	26.80	20.55	0.52	27.32	21.06	60.00	50.00	32.68	28.94
8.546	28.50	22.98	0.59	29.09	23.57	60.00	50.00	30.91	26.43

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

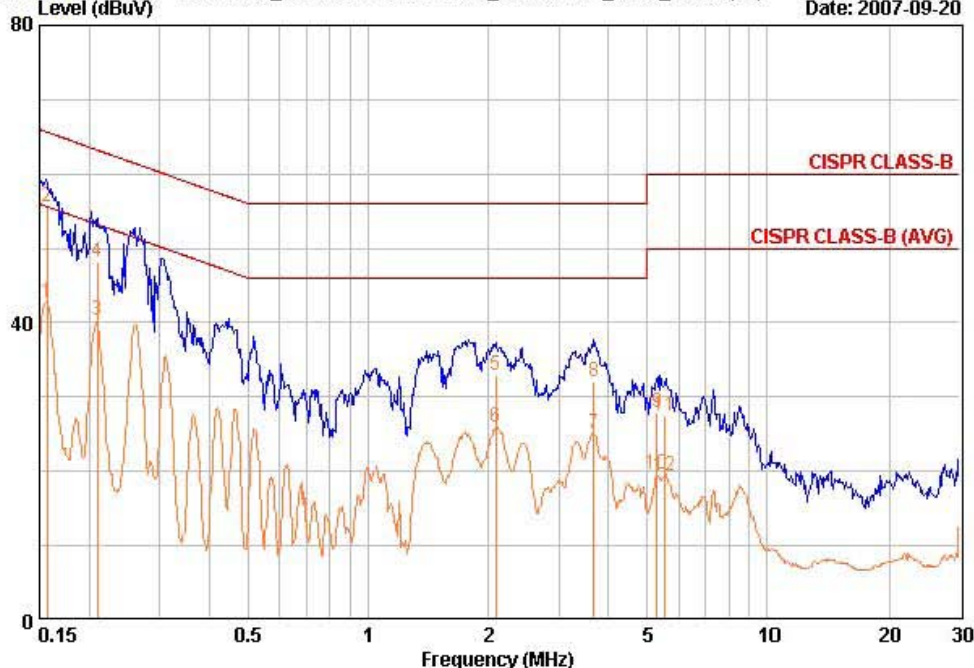
**AC Conducted Emissions – WLAN 802.11g + BT - Line**



243 Jubug-ni, yangji-Myeon, Youngin-si,  
Gyeonggi-do 449-822 Korea  
Tel +82-31-323-6008  
Fax:+82-31-323-6010

EUT / Model No. : COWON Q5W Phase : LINE  
 Test Mode : WLAN 802.11g + BT mode Test Power : 120 / 60  
 Temp./Humi. : 25 / 63 Test Engineer : B.S.KIM

Data: 26 File: E:\00\_e3 EMI DATA\2007\LTA\_Conduction\_0710\_1.EMI (28) Date: 2007-09-20



Freq MHz	RD		C.F	Result		Limit		Margin	
	QP dBuV	AV dBuV		QP dBuV	AV dBuV	QP dBuV	AV dBuV	QP dB	AV dB
0.156	55.10	42.15	0.53	55.63	42.68	65.65	55.65	10.02	12.97
0.209	48.00	40.12	0.19	48.19	40.31	63.23	53.23	15.04	12.92
2.088	32.50	25.48	0.45	32.95	25.93	56.00	46.00	23.05	20.07
3.681	31.50	24.54	0.49	31.99	25.03	56.00	46.00	24.01	20.97
5.277	27.40	19.16	0.56	27.96	19.72	60.00	50.00	32.04	30.28
5.535	27.00	18.89	0.57	27.57	19.46	60.00	50.00	32.43	30.54

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

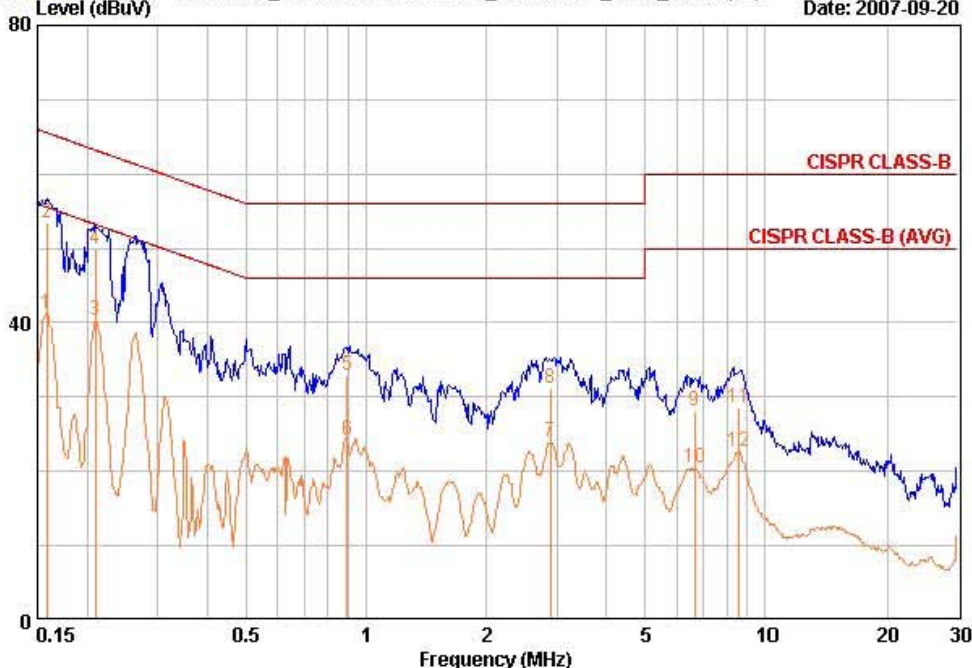
**AC Conducted Emissions – WLAN 802.11g +BT - Neutral**



243 Jubug-ni, yangji-Myeon, Youngin-si,  
Gyeonggi-do 449-822 Korea  
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Fax:+82-31-323-6010

EUT / Model No.: COWON Q5W Phase : NEUTRAL  
 Test Mode : WLAN 802.11g + BT mode Test Power : 120 / 60  
 Temp./Humi. : 25 / 63 Test Engineer : B.S.KIM

Data: 24 File: E:\00\_e3 EMI DATA\2007\LTA\_Conduction\_0710\_1.EMI (24) Date: 2007-09-20



Freq MHz	RD	RD	C.F	Result	Result	Limit	Limit	Margin	Margin
	QP	AV		QP	AV	QP	AV	QP	AV
	dBuV	dBuV	dB	dBuV	dBuV	dBuV	dBuV	dB	dB
0.158	52.80	40.58	0.51	53.31	41.09	65.56	55.56	12.25	14.47
0.209	49.80	40.20	0.19	49.99	40.39	63.23	53.23	13.24	12.84
0.894	32.50	23.72	0.40	32.90	24.12	56.00	46.00	23.10	21.88
2.900	30.50	23.37	0.62	31.12	23.99	56.00	46.00	24.88	22.01
6.662	27.50	20.07	0.52	28.02	20.59	60.00	50.00	31.98	29.41
8.592	28.00	22.08	0.59	28.59	22.67	60.00	50.00	31.41	27.33

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

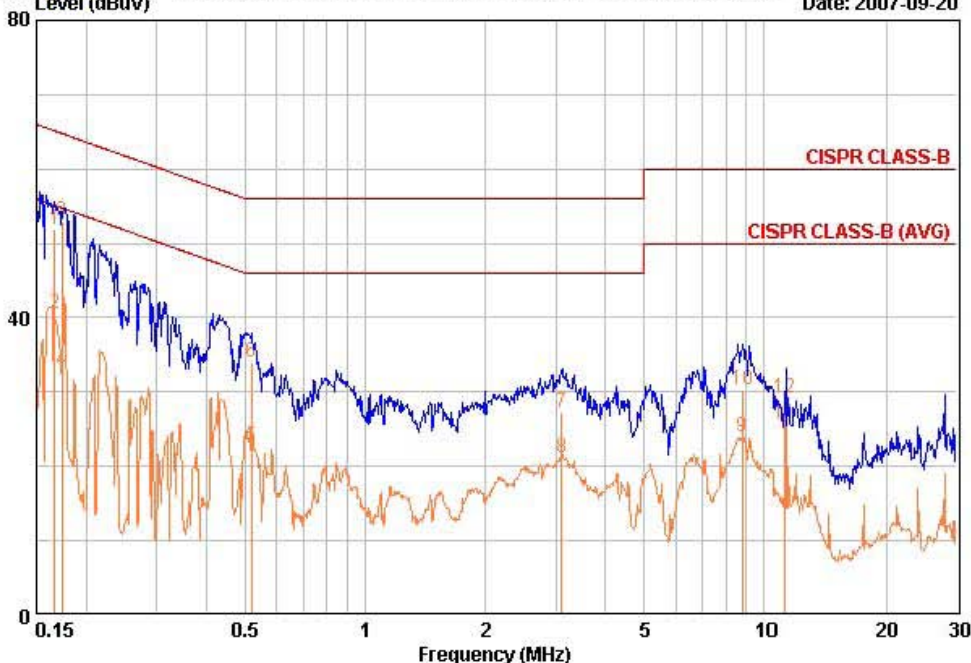
### AC Conducted Emissions –PC Mode - Line



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Tel :+82-31-323-6008  
Fax:+82-31-323-6010

EUT / Model No. : COWON Q5W Phase : LINE  
 Test Mode : File up / down mode Test Power : 120 / 60  
 Temp./Humi. : 26 / 53 Test Engineer : B.S.KIM

Data: 421 File: E:\00\_e3 EMI DATA\2007\LTA\_Conduction\_0708\_1.EMI (573) Date: 2007-09-20  
 Level (dBuV)



Freq MHz	RD	RD	C.F	Result	Result	Limit	Limit	Margin	Margin
	QP	AV		QP	AV	QP	AV	QP	AV
	dBuV	dBuV	dB	dBuV	dBuV	dBuV	dBuV	dB	dB
0.167	51.50	40.00	0.45	51.95	40.45	65.11	55.11	13.16	14.66
0.174	52.50	32.60	0.39	52.89	32.99	64.77	54.77	11.88	21.78
0.519	33.70	22.30	0.29	33.99	22.59	56.00	46.00	22.01	23.41
3.111	26.60	20.50	0.64	27.24	21.14	56.00	46.00	28.76	24.86
8.817	29.80	23.40	0.59	30.39	23.99	60.00	50.00	29.61	26.01
11.186	28.20	24.80	0.96	29.16	25.76	60.00	50.00	30.84	24.24

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss



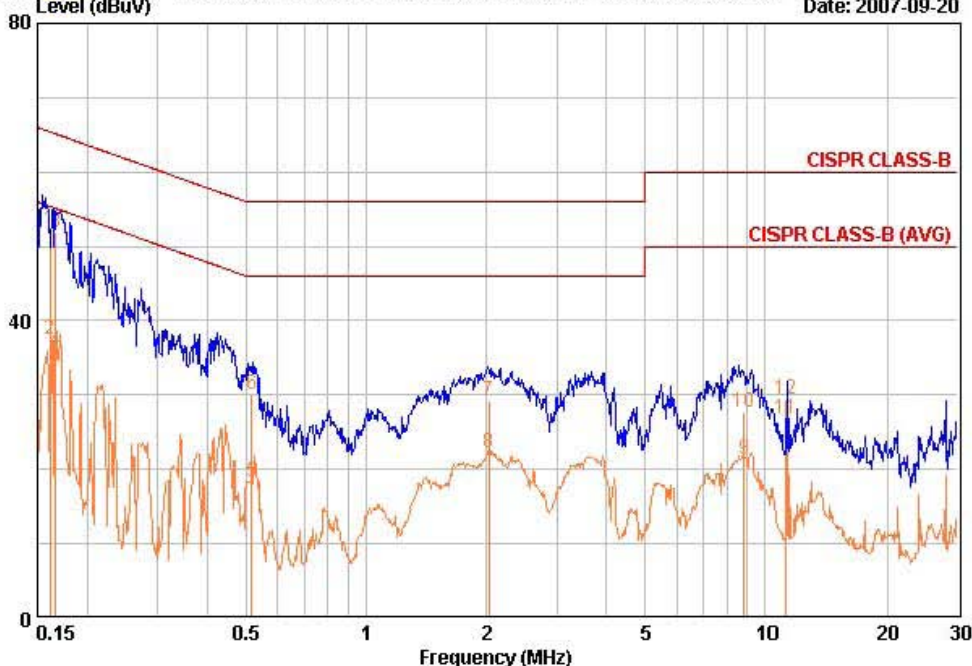
### AC Conducted Emissions – PC Mode - Neutral



243 Jubug-ni, yangji-Myeon, Youngin-si,  
Gyeonggi-do 449-822 Korea  
Tel +82-31-323-6008  
Fax:+82-31-323-6010

EUT / Model No. : COWON Q5W	Phase : NEUTRAL
Test Mode : File up / down mode	Test Power : 120 / 60
Temp./Humi. : 26 / 53	Test Engineer : B.S.KIM

Data: 423 File: E:\00\_e3 EMI DATA\2007\LTA\_Conduction\_0708\_1.EMI (573) Date: 2007-09-20



Freq MHz	RD		C.F	Result		Limit		Margin	
	QP dBuV	AV dBuV		QP dBuV	AV dBuV	QP dB	AV dB		
0.161	51.80	36.90	0.49	52.29	37.39	65.41	55.41	13.12	18.02
0.167	51.40	35.60	0.44	51.84	36.04	65.11	55.11	13.27	19.07
0.515	29.70	18.00	0.28	29.98	18.28	56.00	46.00	26.02	27.72
2.027	28.90	21.80	0.42	29.32	22.22	56.00	46.00	26.68	23.78
8.824	27.10	20.90	0.57	27.67	21.47	60.00	50.00	32.33	28.53
11.185	28.40	25.80	0.93	29.33	26.73	60.00	50.00	30.67	23.27

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

## APPENDIX

### TEST EQUIPMENT USED FOR TESTS

	Description	Model No.	Serial No.	Manufacturer	Next Cal. Date
1	Spectrum Analyzer	8594E	3649A03649	HP	Apr-08
2	Signal Generator	8648C	3623A02597	HP	Apr-08
3	Attenuator (3dB)	8491A	37822	HP	Nov-07
4	Attenuator (10dB)	8491A	63196	HP	Nov-07
5	EMI Test Receiver	ESVD	843748/001	R&S	Jan-08
6	LISN	KNW-407	8-1430-1	Kyoritsu	Jan-08
7	Two-Line V-Network	ESH3-Z5	893045/017	R&S	Jan-08
8	RF Amplifier	8447D	2949A02670	HP	Jan-08
9	RF Amplifier	8447D	2439A09058	HP	Jan-08
10	RF Amplifier	8449B	3008A02126	HP	Apr-09
11	Test Receiver	ESHS10	828404009	R&S	Jan-08
12	TRILOG Antenna	VULB 9160	9160-3212	SCHWARZBECK	Jul-08
13	Log.-Per. Antenna	VULP 9118	9118 A 401	SCHWARZBECK	Apr-09
14	Biconical Antenna	BBA 9106	VHA 9103-2315	SCHWARZBECK	Apr-09
15	Horn Antenna	3115	00055005	ETS LINDGREN	Mar-09
16	Dipole Antenna	VHA9103	2116	Schwarzbeck	Nov-07
17	Dipole Antenna	VHA9103	2117	Schwarzbeck	Nov-07
18	Dipole Antenna	UHA9105	2261	Schwarzbeck	Nov-07
19	Dipole Antenna	UHA9105	2262	Schwarzbeck	Nov-07
20	Spectrum Analyzer	8591E	3649A05888	HP	Jan-08
21	Spectrum Analyzer	8563E	3425A02505	HP	Apr-08
22	Hygro-Thermograph	THB-36	0041557-01	ISUZU	Feb-08
23	Splitter (SMA)	ZFSC-2-2500	SF617800326	Mini-Circuits	Jun-08
24	RF Switch	MP59B	6200414971	ANRITSU	Jun-08
25	RF Switch	MP59B	6200438565	ANRITSU	Jun-08
26	Power Divider	11636A	6243	HP	Nov-07
27	DC Power Supply	6622A	3448A03079	HP	Oct-07
28	Attenuator (30dB)	11636A	6243	HP	Nov-07
29	Frequency Counter	5342A	2826A12411	HP	Apr-08
30	Power Meter	EPM-441A	GB32481702	HP	Apr-08
31	Power Sensor	8481A	2702A64048	HP	Apr-08
32	Audio Analyzer	8903B	3729A18901	HP	Nov-07
33	Modulation Analyzer	8901B	3749A05878	HP	Nov-07
34	TEMP & HUMIDITY Chamber	YJ-500	L05022	JinYoung Tech	Oct-07
35	LOOP-ANTENNA	FMZB 1516	151602/94	SCHWARZBECK	Mar-09