FCC TEST REPORT

REPORT NO.: 060925FIA01

MODEL NO.: 00594WA4

RECEIVED: Sept. 29, 2006

TESTED: Sept. 29 ~ Oct. 10, 2006

ISSUED: Oct. 10, 2006

APPLICANT: Chaney Instrument Co.

ADDRESS: AB 29/F HaiYing Building South Caitian Road Futian District Shenzhen China

ISSUED BY: ADT (Shanghai) Corporation

ADDRESS: 2F, Building C, No.1618, Yishan Rd., 201103, Shanghai, China

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ADT (Shanghai) Corporation.

ACCREDITED
No.: 2343.01

V1.0

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1 CERTIFICATION

PRODUCT:	wireless wind speed sensor
MODEL NO.:	00594WA4
APPLICANT:	Chaney Instrument Co.
TESTED:	Sept. 29 ~ Oct. 10, 2006
TEST ITEM:	Engineering Sample
STANDARDS:	FCC Part 15:2005, Subpart A (Section 15.35), Subpart C (Section 15.207,15.209 and 15.231) ANSI C63.4-2003

The above equipment has been tested by **ADT (Shanghai) Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

TECHNICAL ACCEPTANCE : _____ , **DATE:** OCT. 10, 2006

(Bright Tong)
Engineering Supervisor

APPROVED BY : _____ , **DATE:** OCT. 10, 2006

(Wallace Pan)
Director of Operations

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
Standard Paragraph	**Test Type**	**Result**	**Remarks**
15.207	Conducted Emission Test	N/A	
15.231(c)	20dB Occupied Bandwidth Measurement (Mode 1)	PASS	Meet the requirement of limit
15.209 15.231(e)	Radiated Emission Test (Mode 1)	PASS	Minimum passing margin is –7.52 dB at 1301.76 MHz
	Radiated Emission Test (Mode 2)	PASS	Minimum passing margin is –6.21 dB at 1301.76 MHz
	Radiated Emission Test (Mode 3)	PASS	Minimum passing margin is –6.42 dB at 1301.76 MHz
	Radiated Emission Test (Mode 4)	PASS	Minimum passing margin is –7.43 dB at 1301.76 MHz

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4:

Measurement	Value
Conducted emissions	1.8dB
Radiated emissions	3.5dB

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	wireless wind speed sensor
MODEL NO.	00594WA4
POWER SUPPLY	3 Vdc from battery
MODULATION TYPE	ASK
CARRIER FREQUENCY OF EACH CHANNEL	433.92MHz
NUMBER OF CHANNEL	1
ANTENNA TYPE	Soldered on PCB
DATA CABLE SUPPLIED	N/A
I/O PORTS	N/A

NOTE: The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

One channel is provided to this EUT**:**

Channel	Frequency
1	433.92 MHz

Test Mode Applicability AND TESTED CHANNEL DETAIL:

EUT configure mode	Applicable to					Description
	PLC	20dB OBM	RE<1G	RE≥1G	APM	
1	--	√	√	√	--	43s time interval
2	--	--	√	√	--	47s time interval
3	--	--	√	√	--	51s time interval
4	--	--	√	√	--	53s time interval

Where PLC: Power Line Conducted Emission RE<1G RE: Radiated Emission below 1GHz
RE≥1G: Radiated Emission above 1GHz APM: Antenna Port Measurement
20dB OBM: 20dB Occupied Bandwidth Measurement

Radiated Emission Test (Below 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, and X.Y.Z. axis.

☒ Following channel(s) was (were) selected for the final test as listed below.

Available Channel	Tested Channel	Modulation Type	Axis
1	1	ASK	X

Radiated Emission Test (Above 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, and X.Y.Z. axis.

☒ Following channel(s) was (were) selected for the final test as listed below.

Available Channel	Tested Channel	Modulation Type	Axis
1	1	ASK	X

20dB Occupied Bandwidth Measurement:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, and X.Y.Z. axis.

☒ Following channel(s) was (were) selected for the final test as listed below.

Available Channel	Tested Channel	Modulation Type	Axis
1	1	ASK	X

3.3 DESCRIPTION OF SUPPORT UNITS

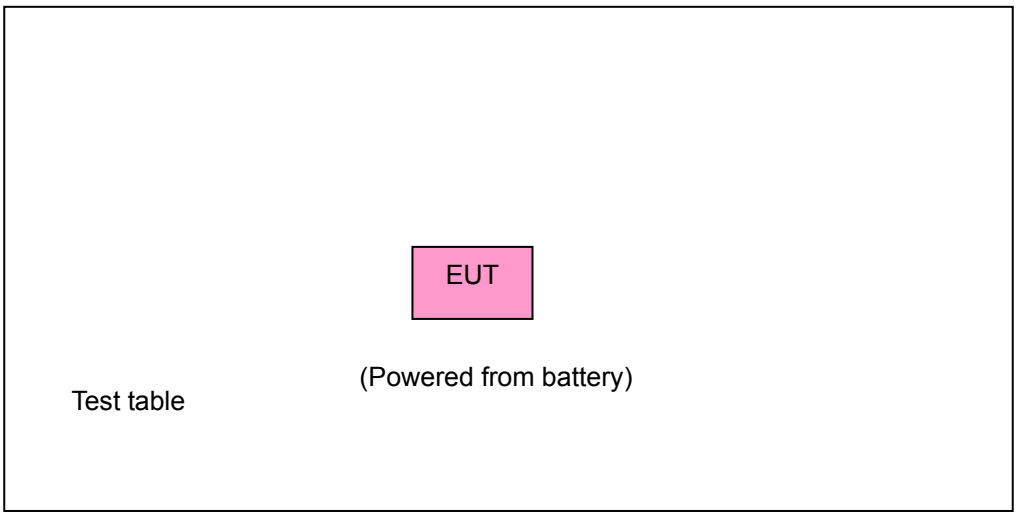
The EUT is an Outdoor Wind Speed and Direction Transmitter. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C. (15.231)
ANSI C63.4- 2003

All test items have been performed and recorded as per the above standards.

3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit.



4 EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

TEST STANDARD:

FCC Part 15: 2005, Subpart C (Section: 15.207)

FREQUENCY (MHz)	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

NOTES: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

4.1.2 TEST RESULT

Since the EUT does not have AC port, the test item is not applicable.

4.2 20dB OCCUPIED BANDWIDTH MEASUREMENT

4.2.1 LIMITS OF BAND EDGES MEASUREMENT

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for device operating above 70 MHz and below 900 MHz.

Fundamental Frequency (MHz)	Limit of 20 dB Bandwidth(kHz)
433.92	1084.8

4.2.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SIGNAL ANALYZER Rohde & Schwarz	FSP30	E1S1002	Mar. 16, 2007

NOTE: The calibration interval of the above test instruments is 12 months.

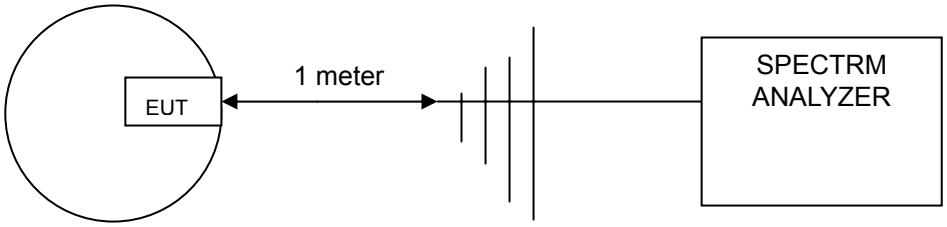
4.2.3 TEST PROCEDURES

1. The EUT was placed on the turning table.
2. The signal was coupled to the spectrum analyzer through an antenna.
3. Set the resolution bandwidth to 10 kHz and video bandwidth to 1MHz then select Peak function to scan the channel frequency.
4. The 20dB bandwidth was measured and recorded.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

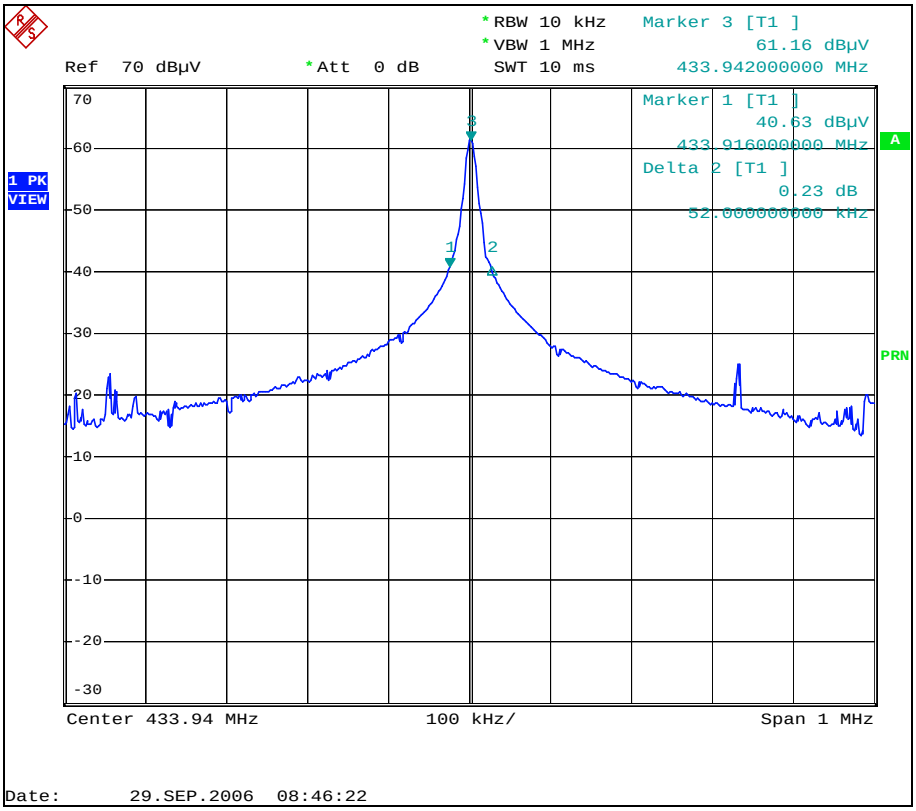
4.2.5 TEST SETUP



4.2.6 TEST RESULTS

Frequency (MHz)	20 dB bandwidth (kHz)	Maximum limit (kHz)	PASS/FAIL
433.92	52	1084.80	PASS

The plot of test result is attached as below.



4.3 RADIATED EMISSION MEASUREMENT

4.3.1 LIMITS OF RADIATED EMISSION MEASUREMENT

TEST STANDARD:
FCC Part 15: 2005, Subpart C (Section: 15.205)
FCC Part 15: 2005, Subpart C (Section: 15.209)
FCC Part 15: 2005, Subpart C (Section: 15.231(e))

According to 15.231 the field strength of emissions from intentional radiators operated under these frequencies bands shall not exceed the following:

Fundamental Frequency (MHz)	Field Strength of Fundamental		Field Strength of Spurious	
	uV/meter	dBuV/meter	uV/meter	dBuV/meter
40.66 – 40.70	1000	60.00	100	40.00
70 – 130	500	53.98	50	36.98
130 – 174	500 to 1500	53.98 to 63.52	50 to 150	36.98 to 43.52
174 – 260	1500	63.52	150	43.52
260 – 470	1500 to 5000	63.52 to 73.98	150 to 500	43.52 to 53.98
Above 470	5000	73.98	500	53.98

NOTE:

(1) Where F is the frequency in MHz, the formula for calculating the maximum permitted fundamental field strengths are as follows: for the band 130-174 MHz, uV/m at 3 meters = 22.72727(F) - 2454.545; for the band 260-470 MHz, uV/m at 3 meters =16.6667(F) - 2833.3333. The maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level.

(2) The above field strength limits are specified at a distance of 3meters. The tighter limits apply at the band edges.

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

FREQUENCY RANGE OF RADIATED MEASUREMENT
(For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5^{th} harmonic of the highest frequency or 40 GHz, whichever is lower

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS30	E1R1001	Apr. 19, 2007
BILOG Antenna SCHWARZBECK	VULB9168	E1A1001	Sept. 26, 2007
Preamplifier Agilent	8447D	E1A2001	Jan. 27, 2007
Preamplifier Agilent	8449B	E1A2002	Jan. 27, 2007
Double Ridged Broadband Horn Antenna Schwarzbeck	BBHA 9120D	E1A1002	Feb. 15, 2007
Spectrum Analyzer Agilent	E4403B	E1S1001	Jan. 13, 2007
Signal Analyzer ROHDE & SCHWARZ	FSP30	E1S1002	May. 16, 2007
RF signal cable Woken	RG-402	E1CBH01	May. 30, 2007
RF signal cable Woken	RG-402	E1CBH05	May. 30, 2007
RF signal cable Woken	RG-402	E1CBH07	May. 30, 2007
RF signal cable Woken	RG-412	E1CBL02	May. 30, 2007
RF signal cable Woken	RG-412	E1CBL03	May. 30, 2007
RF signal cable Woken	RG-412	E1CBL04	May. 30, 2007
Software ADT	ADT_Radiated_V7.5	N/A	N/A

NOTE: 1. The calibration interval of the above test instruments is 12 months.
2. "*" = These equipment are used for the final measurement.
3. The horn antenna and Agilent preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The Spectrum Analyzer (model: FSP30) and RF signal cable (SERIAL: E1CBH05&E1CBH07) are used only for the measurement of emission frequency above 1GHz if tested.

4.3.3 TEST PROCEDURE

b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using the quasi-peak method or average method as specified and then reported in Data sheet peak mode and QP mode.

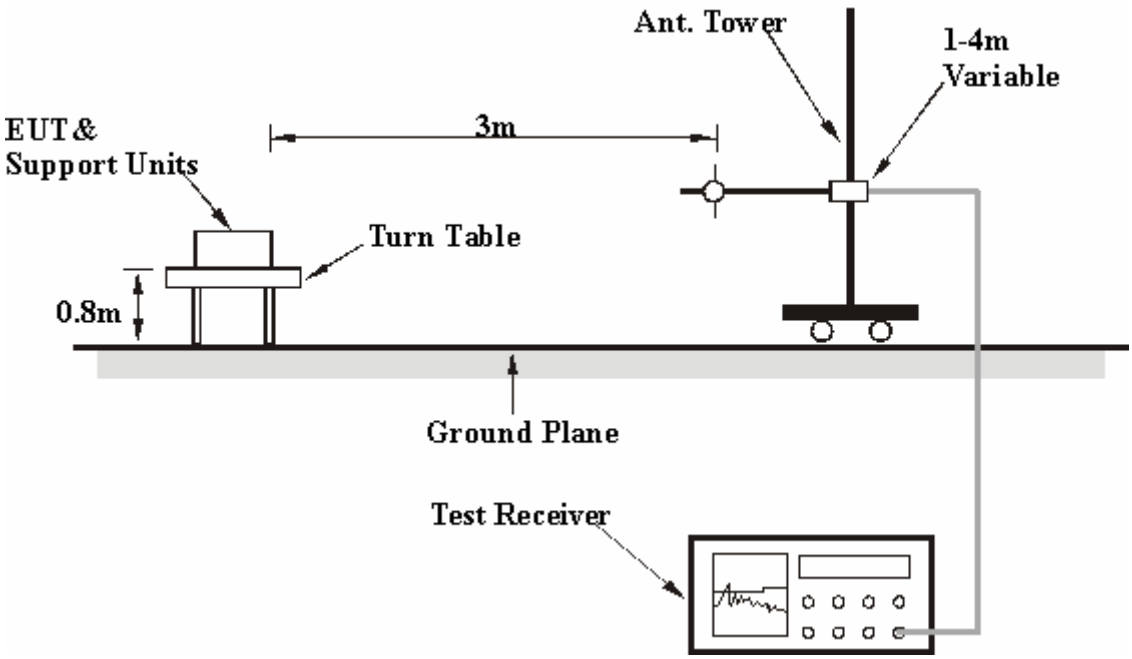
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection (PK) at frequency above 1GHz.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



For the actual test configuration, please refer to the related Item – Photographs of the Test Configuration.

4.3.6 EUT OPERATING CONDITIONS

Put the EUT at the centre of the test table and the receiver 10cm far from it, then have the test.

4.3.7 TEST RESULTS

Mode 1

Below 1GHz

EUT	wireless wind speed sensor	**MODEL NO.**	00594WA4
CHANNEL	Channel 1	**FREQUENCY RANGE**	30 ~ 1000 MHz
MODULATION TYPE	ASK	**INPUT POWER (SYSTEM)**	3 Vdc from battery
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**DETECTOR FUNCTION**	Quasi-Peak / Peak/ Average
TESTED BY	BRIGHT		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	153.68QP	17.01	-6.61	10.4	43.5	-33.1	182	79
2	279.77QP	15.81	-7.36	8.45	46	-37.55	258	142
3	350.10QP	17.47	-7.08	10.39	46	-35.61	123	19
*4	433.92PK	19.74	45.25	64.99	92.87	-27.88	100	26
*4	433.92AV	19.74	31.22	50.96	72.87	-21.91	100	26
5	519.85QP	21.29	-7.49	13.8	46	-32.2	335	207
6	616.85QP	23.45	-7.35	16.1	46	-29.9	201	18
7	706.58QP	24.71	-7.4	17.31	46	-28.69	289	306
8	867.84PK	26.45	17.55	44	72.87	-28.87	100	112
8	867.84AV	26.45	3.67	30.12	52.87	-22.75	100	112

NOTE: 1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB)
2. Correction Factor (dB) = Antenna Factor (dB) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. "*" = Fundamental frequency
6. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

20log (Duty cycle) = 20log (71*0.28/100) = -14.03dB

Please see page 22 for plotted duty.

EUT	wireless wind speed sensor	**MODEL NO.**	00594WA4
CHANNEL	Channel 1	**FREQUENCY RANGE**	30 ~ 1000 MHz
MODULATION TYPE	ASK	**INPUT POWER (SYSTEM)**	3 Vdc from battery
ENVIRONMENTAL CONDITIONS	25deg. C, 61%RH, 991hPa	**DETECTOR FUNCTION**	Quasi-Peak / Peak/ Average
TESTED BY	BRIGHT		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	59.10QP	14.84	-7.93	6.91	40.00	-33.09	101	11
2	248.25QP	14.80	-7.33	7.47	46.00	-38.53	101	276
3	306.45QP	16.69	-7.41	9.28	46.00	-36.72	101	82
*4	433.92PK	19.74	34.66	54.40	92.87	-38.47	101	31
*4	433.92AV	19.74	20.78	40.52	72.87	-32.35	101	31
5	578.05QP	22.68	-7.56	15.12	46.00	-30.88	101	211
6	716.27QP	24.91	-7.83	17.08	46.00	-28.92	101	148
7	830.25QP	26.31	-8.35	17.96	46.00	-28.04	101	0
8	867.84PK	26.45	10.95	37.40	72.87	-35.47	101	19
8	867.84AV	26.45	-2.93	23.52	52.87	-29.35	101	19

NOTE: 1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB)
2. Correction Factor (dB) = Antenna Factor (dB) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. "*" = Fundamental frequency
6. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

20log (Duty cycle) = 20log (71*0.28/100) = -14.03dB

Please see page 22 for plotted duty.

Above 1GHz

EUT	wireless wind speed sensor	**MODEL NO.**	00594WA4
CHANNEL	Channel 1	**FREQUENCY RANGE**	1GHz – 5GHz
MODULATION TYPE	ASK	**INPUT POWER (SYSTEM)**	3Vdc from battery
ENVIRONMENTAL CONDITIONS	25deg. C, 61%RH, 991hPa	**DETECTOR FUNCTION**	Peak / Average
TESTED BY	Bright		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	1301.76PK	30.33	22.97	53.3	74	-20.7	100	22
1	1301.76AV	30.33	8.94	39.27	54	-14.73	100	22
2	1735.68PK	30.8	18.69	49.49	74	-24.51	101	136
2	1735.68AV	30.8	4.66	35.46	54	-18.54	101	136
3	2169.60PK	34.59	16.12	50.71	74	-23.29	101	24
3	2169.60AV	34.59	2.09	36.68	54	-17.32	101	24
4	2603.52PK	35.29	16.04	51.33	74	-22.67	101	38
4	2603.52AV	35.29	2.01	37.3	54	-16.7	101	38
5	3037.44PK	36.35	16.51	52.86	74	-21.14	101	67
5	3037.44AV	36.35	2.48	38.83	54	-15.17	101	67
6	3471.36PK	36.57	14.1	50.67	74	-23.33	101	36
6	3471.36AV	36.57	0.07	36.64	54	-17.36	101	36
7	3905.28PK	38.66	13.27	51.93	74	-22.07	101	114
7	3905.28AV	38.66	-0.76	37.9	54	-16.1	101	114
8	4339.20PK	39.81	11.94	51.75	74	-22.25	101	236
8	4339.20AV	39.81	-2.09	37.72	54	-16.28	101	236

REMARKS:1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

20log (Duty cycle) = 20log (71*0.28/100) = -14.03dB

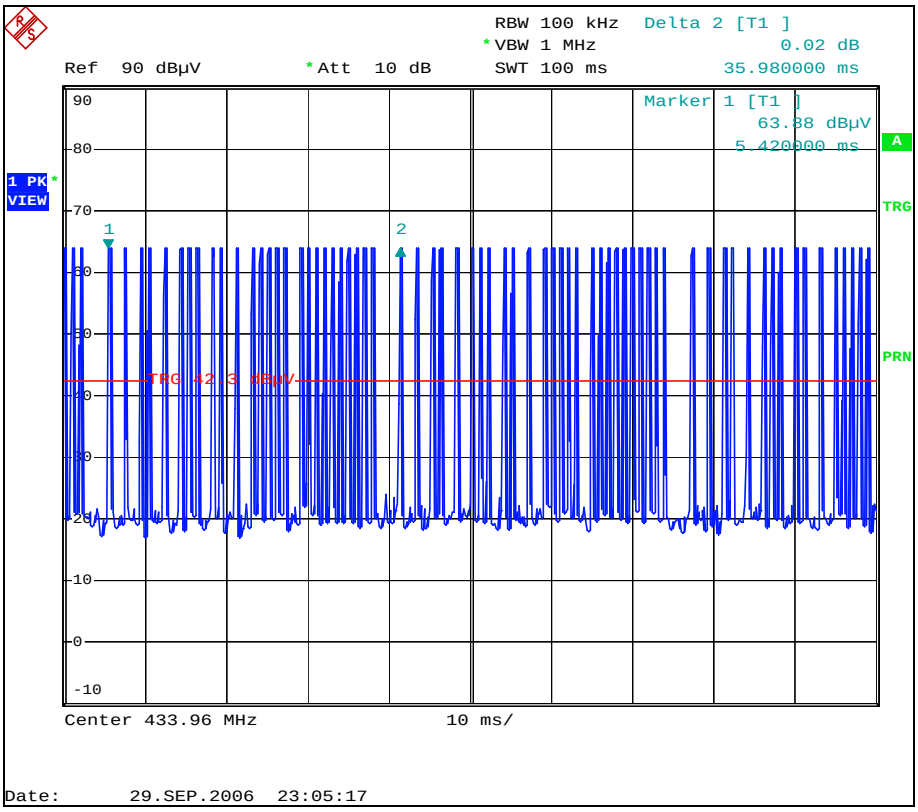
Please see page 22 for plotted duty.

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	1301.76PK	30.33	30.18	60.51	74	-13.49	100	19
1	**1301.76AV**	**30.33**	**16.15**	**46.48**	**54**	**-7.52**	**100**	**19**
2	1735.68PK	30.8	19.65	50.45	74	-23.55	101	69
2	1735.68AV	30.8	5.62	36.42	54	-17.58	101	69
3	2169.60PK	34.59	16.35	50.94	74	-23.06	101	67
3	2169.60AV	34.59	2.32	36.91	54	-17.09	101	67
4	2603.52PK	35.29	15.47	50.76	74	-23.24	101	67
4	2603.52AV	35.29	1.44	36.73	54	-17.27	101	67
5	3037.44PK	36.35	16.47	52.82	74	-21.18	101	49
5	3037.44AV	36.35	2.44	38.79	54	-15.21	101	49
6	3471.36PK	36.57	13.69	50.26	74	-23.74	101	23
6	3471.36AV	36.57	-0.34	36.23	54	-17.77	101	23
7	3905.28PK	38.66	13.49	52.15	74	-21.85	101	118
7	3905.28AV	38.66	-0.54	38.12	54	-15.88	101	118
8	4339.20PK	39.81	12.85	52.66	74	-21.34	101	54
8	4339.20AV	39.81	-1.18	38.63	54	-15.37	101	54

REMARKS:1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

20log (Duty cycle) = 20log (71*0.28/100) = -14.03dB

Please see page 22 for plotted duty.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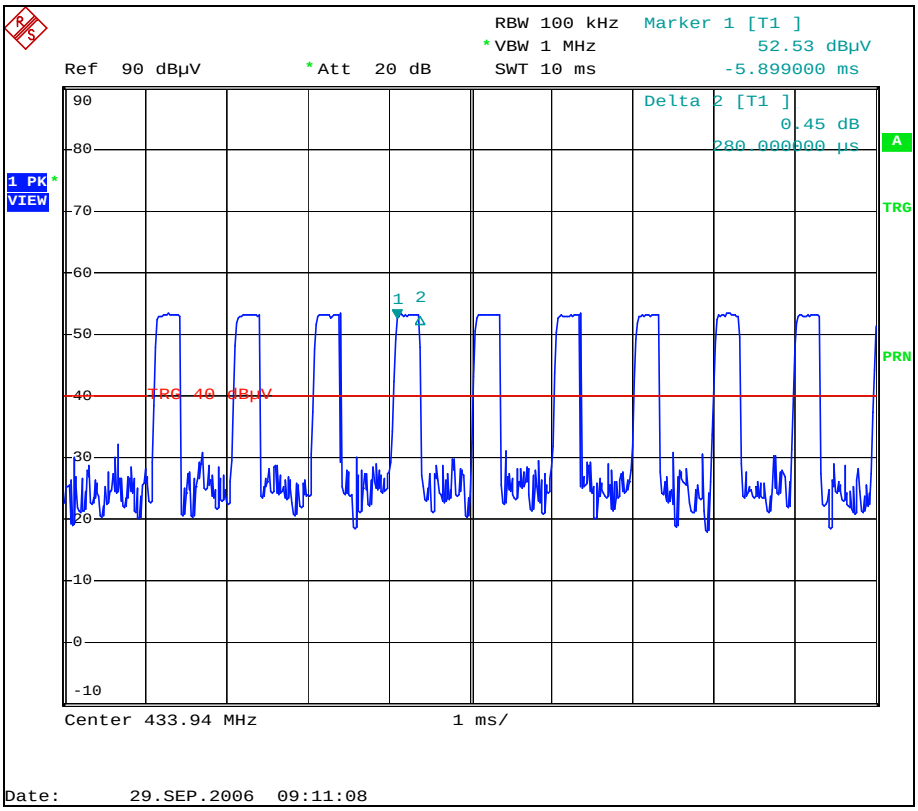
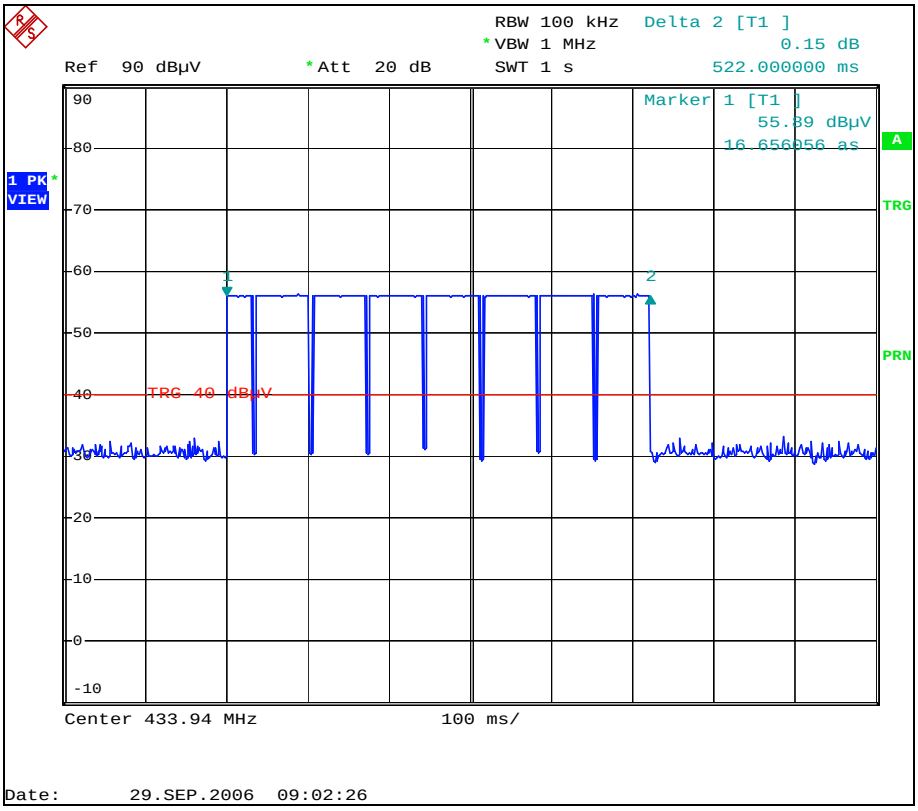
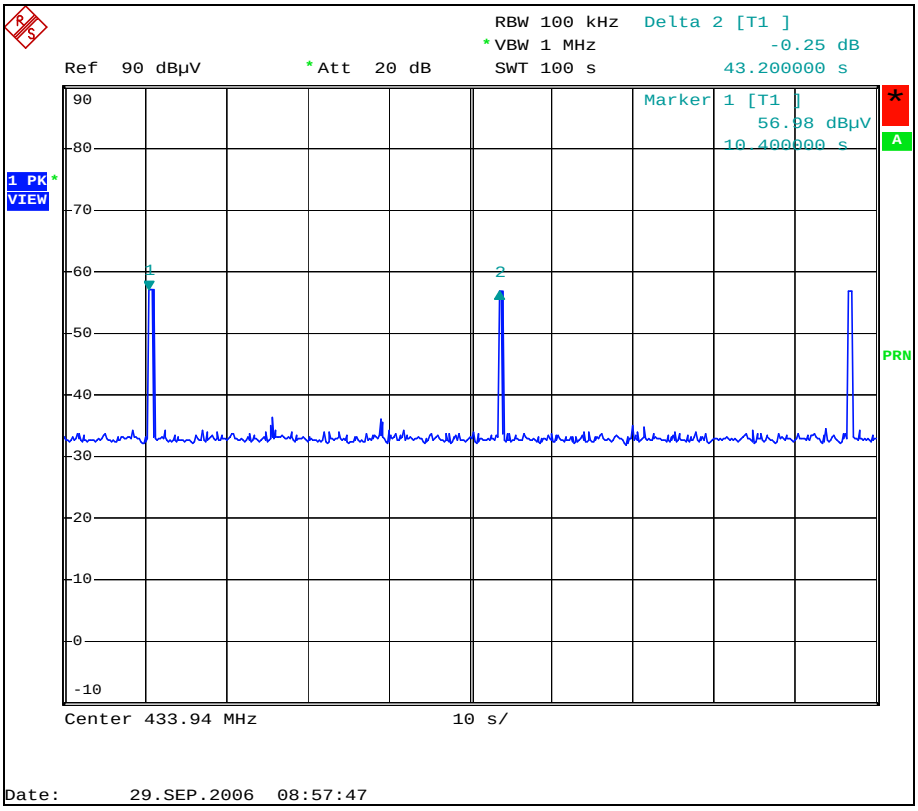
*VBW 1 MHz
SWT 100 ms
Delta 2 [T1]
0.02 dB
35.980000 ms
Ref 90 dBµV
*Att 10 dB
Marker 1 [T1]
63.88 dBµV
5.420000 ms
1 PK*
VIEW
A
TRG
PRN
TRG 42.3 dBµV
Center 433.96 MHz
10 ms/
Date: 29.SEP.2006 23:05:17


RBW 100 kHz
*VBW 1 MHz
SWT 10 ms
Marker 1 [T1]
52.53 dBµV
-5.899000 ms
Delta 2 [T1]
0.45 dB
280.000000 µs
Ref 90 dBµV
*Att 20 dB
1 PK*
VIEW
A
TRG
PRN
TRG 40 dBµV
Center 433.94 MHz
1 ms/
Date: 29.SEP.2006 09:11:08


RBW 100 kHz
Delta 2 [T1]
*VBW 1 MHz
0.15 dB
Ref 90 dBµV
*Att 20 dB
SWT 1 s
522.000000 ms
Marker 1 [T1]
55.89 dBµV
16.656856 as
1 PK
VIEW
A
TRG
PRN
TRG 40 dBµV
Center 433.94 MHz
100 ms/
Date: 29.SEP.2006 09:02:26


RBW 100 kHz
Delta 2 [T1]
*VBW 1 MHz
-0.25 dB
Ref 90 dBµV
*Att 20 dB
SWT 100 s
43.200000 s
Marker 1 [T1]
56.98 dBµV
10.400000 s
1 PK
VIEW
A
PRN
Center 433.94 MHz
10 s/
Date: 29.SEP.2006 08:57:47

Mode 2

Below 1GHz

EUT	wireless wind speed sensor	**MODEL NO.**	00594WA4
CHANNEL	Channel 1	**FREQUENCY RANGE**	30 ~ 1000 MHz
MODULATION TYPE	ASK	**INPUT POWER (SYSTEM)**	3 Vdc from battery
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**DETECTOR FUNCTION**	Quasi-Peak / Peak/ Average
TESTED BY	BRIGHT		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	42.12QP	15.75	-7.62	8.13	40	-31.87	141	169
2	59.11QP	14.84	4.01	18.85	40	-21.15	101	317
3	177.35QP	15.03	6.15	21.18	43.5	-22.32	101	13
4	266.03QP	15.35	5.66	21.01	46	-24.99	99	267
5	350.33QP	17.48	6.91	24.39	46	-21.61	400	0
6	369.27QP	18.01	7.18	25.19	46	-20.81	400	0
*7	433.92PK	19.74	46.29	66.03	92.87	-26.84	100	26
*7	433.92AV	19.74	32.26	52	72.87	-20.87	100	26
8	867.84PK	26.45	18.34	44.79	72.87	-28.08	100	112
8	867.84AV	26.45	4.46	30.91	52.87	-21.96	100	112

NOTE: 1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB)
2. Correction Factor (dB) = Antenna Factor (dB) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. "*" = Fundamental frequency
6. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

20log (Duty cycle) = 20log (71*0.28/100) = -14.03dB

Please see page 28 for plotted duty.

EUT	wireless wind speed sensor	**MODEL NO.**	00594WA4
CHANNEL	Channel 1	**FREQUENCY RANGE**	30 ~ 1000 MHz
MODULATION TYPE	ASK	**INPUT POWER (SYSTEM)**	3 Vdc from battery
ENVIRONMENTAL CONDITIONS	25deg. C, 61%RH, 991hPa	**DETECTOR FUNCTION**	Quasi-Peak / Peak/ Average
TESTED BY	BRIGHT		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	49.4QP	15.47	-5.93	9.54	40	-30.46	100	307
2	124.15QP	15.01	13.36	28.37	43.5	-15.13	100	317
3	481.05QP	20.6	-6.85	13.75	46	-32.25	100	201
4	492.35QP	20.76	-3.03	17.73	46	-28.27	100	0
5	553.8QP	22.15	-7.33	14.82	46	-31.18	100	134
6	638.67QP	23.76	-7.44	16.32	46	-29.68	100	8
*7	433.92PK	19.74	33.79	53.53	92.87	-39.34	101	31
*7	433.92AV	19.74	19.76	39.5	72.87	-33.37	101	31
8	867.84PK	26.45	10.58	37.03	72.87	-35.84	101	19
8	867.84AV	26.45	-3.3	23.15	52.87	-29.72	101	19

NOTE: 1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB)
2. Correction Factor (dB) = Antenna Factor (dB) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. "*" = Fundamental frequency
6. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

20log (Duty cycle) = 20log (71*0.28/100) = -14.03dB

Please see page 28 for plotted duty.

Above 1GHz

EUT	wireless wind speed sensor	**MODEL NO.**	00594WA4
CHANNEL	Channel 1	**FREQUENCY RANGE**	1GHz – 5GHz
MODULATION TYPE	ASK	**INPUT POWER (SYSTEM)**	3Vdc from battery
ENVIRONMENTAL CONDITIONS	25deg. C, 61%RH, 991hPa	**DETECTOR FUNCTION**	Peak / Average
TESTED BY	Bright		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	1301.76PK	30.33	24.27	54.6	74	-19.4	100	74
1	1301.76AV	30.33	10.24	40.57	54	-13.43	100	74
2	1735.68PK	30.8	21.09	51.89	74	-22.11	101	36
2	1735.68AV	30.8	7.06	37.86	54	-16.14	101	36
3	2169.60PK	34.59	16.92	51.51	74	-22.49	101	58
3	2169.60AV	34.59	2.89	37.48	54	-16.52	101	58
4	2603.52PK	35.29	17.24	52.53	74	-21.47	101	136
4	2603.52AV	35.29	3.21	38.5	54	-15.5	101	136
5	3037.44PK	36.35	16.21	52.56	74	-21.44	101	268
5	3037.44AV	36.35	2.18	38.53	54	-15.47	101	268
6	3471.36PK	36.57	13.89	50.46	74	-23.54	101	54
6	3471.36AV	36.57	-0.14	36.43	54	-17.57	101	54
7	3905.28PK	38.66	12.03	50.69	74	-23.31	101	29
7	3905.28AV	38.66	-2	36.66	54	-17.34	101	29
8	4339.20PK	39.81	9.46	49.27	74	-24.73	101	65
8	4339.20AV	39.81	-4.57	35.24	54	-18.76	101	65

REMARKS:1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

20log (Duty cycle) = 20log (71*0.28/100) = -14.03dB

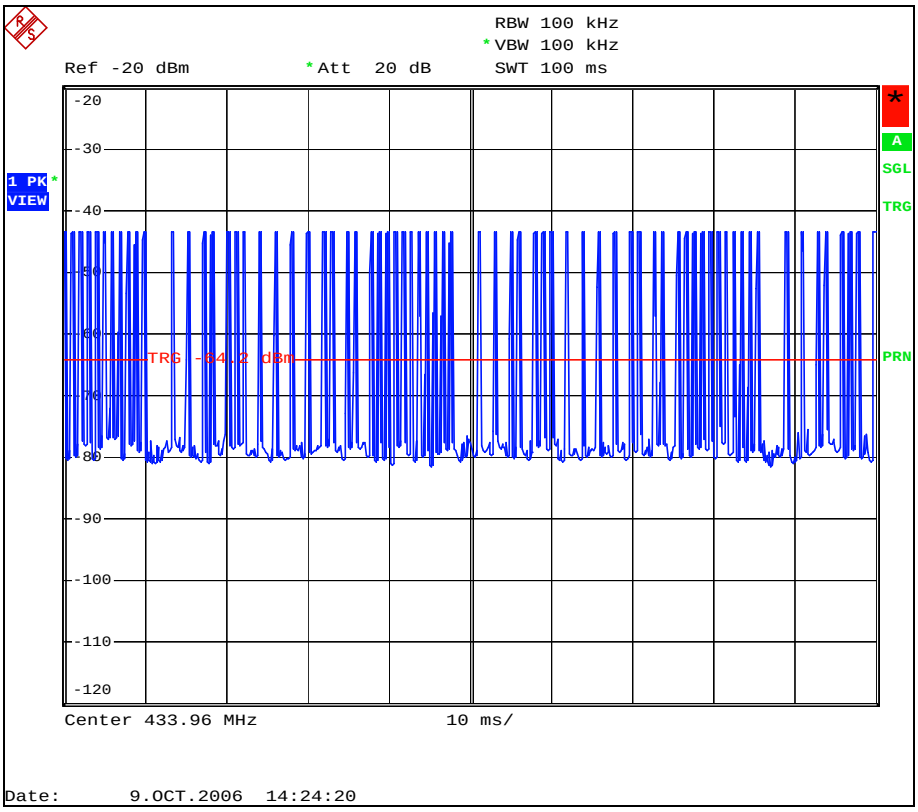
Please see page 28 for plotted duty.

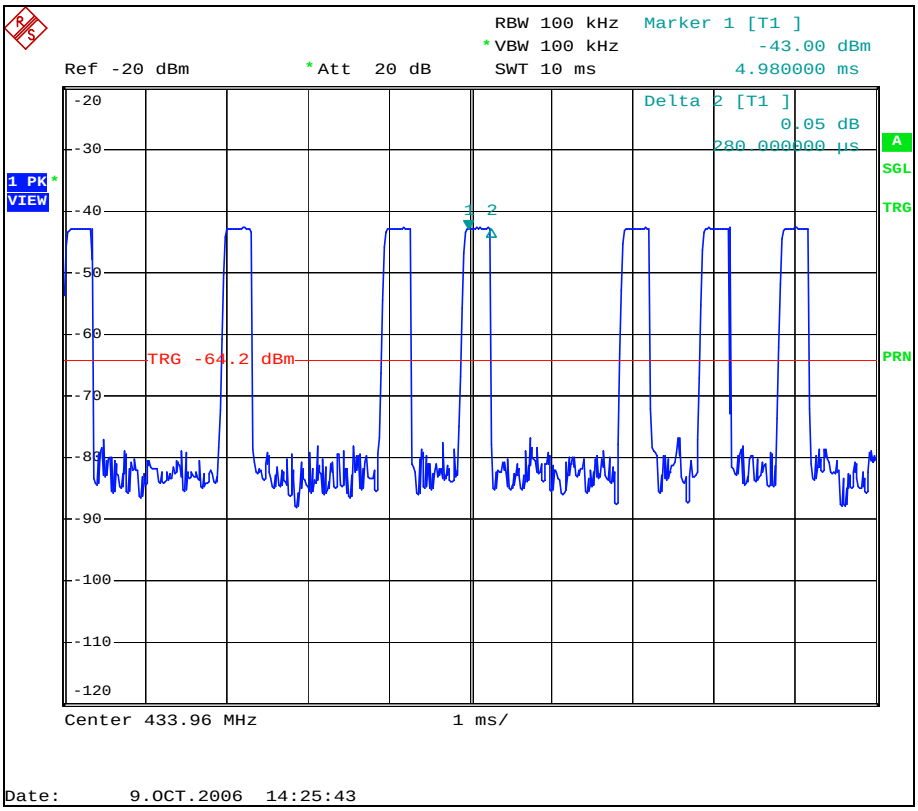
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	1301.76PK	30.33	31.49	61.82	74	-12.18	100	123
1	**1301.76AV**	**30.33**	**17.46**	**47.79**	**54**	**-6.21**	**100**	**123**
2	1735.68PK	30.8	19.91	50.71	74	-23.29	101	65
2	1735.68AV	30.8	5.88	36.68	54	-17.32	101	65
3	2169.60PK	34.59	17.59	52.18	74	-21.82	101	11
3	2169.60AV	34.59	3.56	38.15	54	-15.85	101	11
4	2603.52PK	35.29	15.83	51.12	74	-22.88	101	69
4	2603.52AV	35.29	1.8	37.09	54	-16.91	101	69
5	3037.44PK	36.35	16.32	52.67	74	-21.33	101	85
5	3037.44AV	36.35	2.29	38.64	54	-15.36	101	85
6	3471.36PK	36.57	11.56	48.13	74	-25.87	101	269
6	3471.36AV	36.57	-2.47	34.1	54	-19.9	101	269
7	3905.28PK	38.66	12.47	51.13	74	-22.87	101	46
7	3905.28AV	38.66	-1.56	37.1	54	-16.9	101	46
8	4339.20PK	39.81	13.59	53.4	74	-20.6	101	23
8	4339.20AV	39.81	-0.44	39.37	54	-14.63	101	23

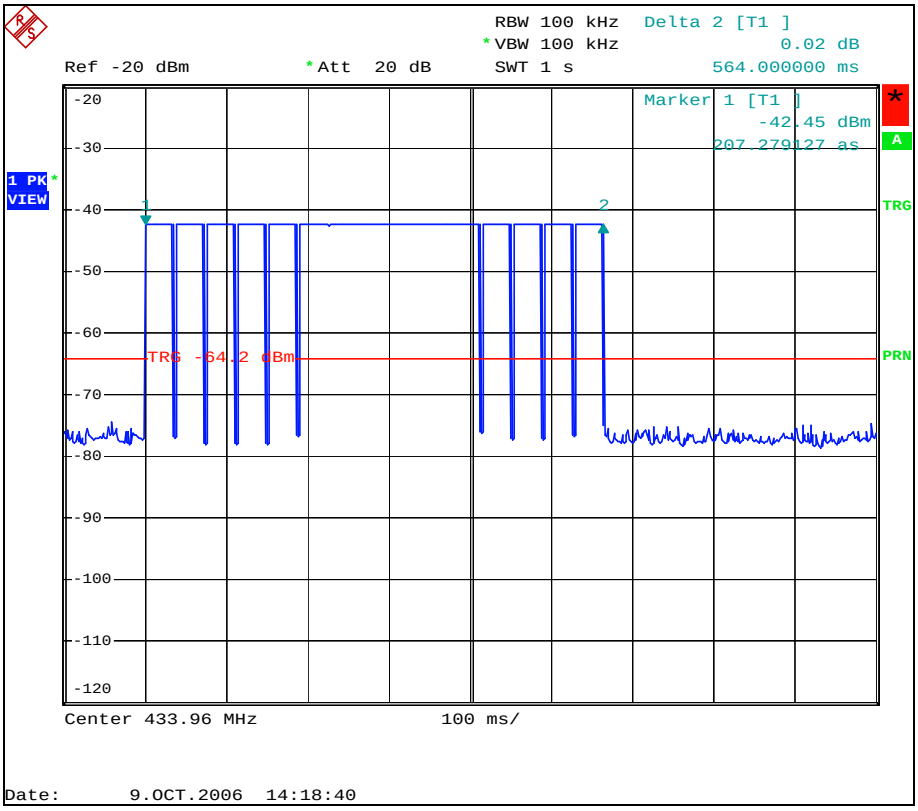
REMARKS:1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

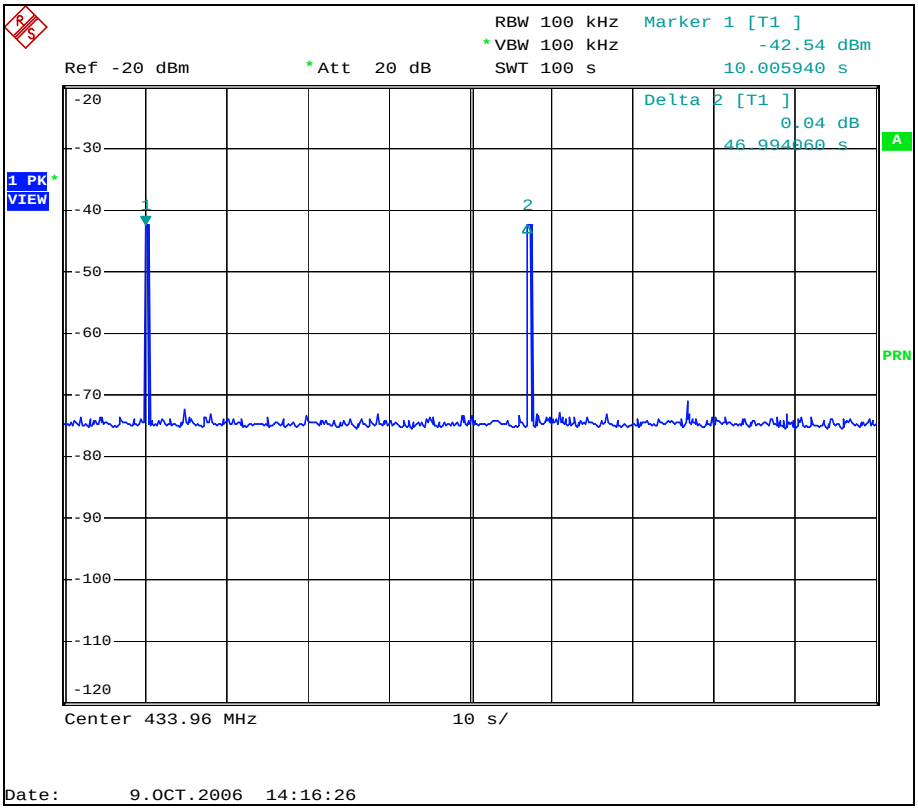
20log (Duty cycle) = 20log (71*0.28/100) = -14.03dB

Please see page 28 for plotted duty.


RBW 100 kHz
*VBW 100 kHz
Ref -20 dBm
*Att 20 dB
SWT 100 ms
1 PK*
VIEW
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110
-120
TRG -64.2 dBm
A
SGL
TRG
PRN
Center 433.96 MHz
10 ms/
Date: 9.OCT.2006 14:24:20


RBW 100 kHz
Marker 1 [T1]
-43.00 dBm
*VBW 100 kHz
Ref -20 dBm
*Att 20 dB
SWT 10 ms
4.980000 ms
Delta 2 [T1]
0.05 dB
280.000000 µs
1 PK*
VIEW
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110
-120
TRG -64.2 dBm
A
SGL
TRG
PRN
Center 433.96 MHz
1 ms/
Date: 9.OCT.2006 14:25:43


RBW 100 kHz
*VBW 100 kHz
SWT 1 s
Delta 2 [T1]
0.02 dB
564.000000 ms
Ref -20 dBm
*Att 20 dB
Marker 1 [T1]
-42.45 dBm
207.279127 as
1 PK VIEW
TRG
PRN
TRG -64.2 dBm
Center 433.96 MHz
100 ms/
Date: 9.OCT.2006 14:18:40


RBW 100 kHz
*VBW 100 kHz
SWT 100 s
Marker 1 [T1]
-42.54 dBm
10.005940 s
Ref -20 dBm
*Att 20 dB
Delta 2 [T1]
0.04 dB
1 PK VIEW
PRN
Center 433.96 MHz
10 s/
Date: 9.OCT.2006 14:16:26

Mode 3

Below 1GHz

EUT	wireless wind speed sensor	**MODEL NO.**	00594WA4
CHANNEL	Channel 1	**FREQUENCY RANGE**	30 ~ 1000 MHz
MODULATION TYPE	ASK	**INPUT POWER (SYSTEM)**	3 Vdc from battery
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**DETECTOR FUNCTION**	Quasi-Peak / Peak/ Average
TESTED BY	BRIGHT		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	117.3QP	14.44	-7.25	7.19	43.5	-36.31	153	29
2	124.15QP	15.01	3.41	18.42	43.5	-25.08	100	351
3	177.35QP	15.03	9.48	24.51	43.5	-18.99	101	344
4	350.33QP	17.48	6.36	23.84	46	-22.16	101	291
*5	433.92PK	19.74	44.56	64.3	92.87	-28.57	100	26
*5	433.92AV	19.74	30.53	50.27	72.87	-22.6	100	26
6	604.73QP	23.22	-7.59	15.63	46	-30.37	103	186
7	624.12QP	23.58	-7.38	16.2	46	-29.8	298	64
8	867.84PK	26.45	17.34	43.79	72.87	-29.08	100	112
8	867.84AV	26.45	3.46	29.91	52.87	-22.96	100	112

NOTE: 1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB)
2. Correction Factor (dB) = Antenna Factor (dB) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. "*" = Fundamental frequency
6. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

20log (Duty cycle) = 20log (71*0.28/100) = -14.03dB

Please see page 34 for plotted duty.

EUT	wireless wind speed sensor	**MODEL NO.**	00594WA4
CHANNEL	Channel 1	**FREQUENCY RANGE**	30 ~ 1000 MHz
MODULATION TYPE	ASK	**INPUT POWER (SYSTEM)**	3 Vdc from battery
ENVIRONMENTAL CONDITIONS	25deg. C, 61%RH, 991hPa	**DETECTOR FUNCTION**	Quasi-Peak / Peak/ Average
TESTED BY	BRIGHT		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	201.78QP	12.98	8.56	21.54	43.5	-21.96	100	19
2	224.44QP	14.15	9.86	24.01	46	-21.99	100	335
3	367.07QP	17.95	-6.4	11.55	46	-34.45	100	249
4	369.27QP	18.01	6.2	24.21	46	-21.79	100	0
*5	433.92PK	19.74	32.13	51.87	92.87	-41	101	31
*5	433.92AV	19.74	18.1	37.84	72.87	-35.03	101	31
6	723.55QP	25.06	-7.6	17.46	46	-28.54	100	223
7	867.84PK	26.45	10.61	37.06	72.87	-35.81	101	19
7	867.84AV	26.45	-3.42	23.03	52.87	-29.84	101	19
8	905.42QP	27.33	-7.35	19.98	46	-26.02	100	304

NOTE: 1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB)
2. Correction Factor (dB) = Antenna Factor (dB) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. "*" = Fundamental frequency
6. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

20log (Duty cycle) = 20log (71*0.28/100) = -14.03dB

Please see page 34 for plotted duty.

Above 1GHz

EUT	wireless wind speed sensor	**MODEL NO.**	00594WA4
CHANNEL	Channel 1	**FREQUENCY RANGE**	1GHz – 5GHz
MODULATION TYPE	ASK	**INPUT POWER (SYSTEM)**	3Vdc from battery
ENVIRONMENTAL CONDITIONS	25deg. C, 61%RH, 991hPa	**DETECTOR FUNCTION**	Peak / Average
TESTED BY	Bright		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	1301.76PK	30.33	24.39	54.72	74	-19.28	100	22
1	1301.76AV	30.33	10.36	40.69	54	-13.31	100	22
2	1735.68PK	30.8	21.45	52.25	74	-21.75	101	36
2	1735.68AV	30.8	7.42	38.22	54	-15.78	101	36
3	2169.60PK	34.59	17.37	51.96	74	-22.04	101	49
3	2169.60AV	34.59	3.34	37.93	54	-16.07	101	49
4	2603.52PK	35.29	17.52	52.81	74	-21.19	101	168
4	2603.52AV	35.29	3.49	38.78	54	-15.22	101	168
5	3037.44PK	36.35	16.57	52.92	74	-21.08	101	239
5	3037.44AV	36.35	2.54	38.89	54	-15.11	101	239
6	3471.36PK	36.57	14.37	50.94	74	-23.06	101	168
6	3471.36AV	36.57	0.34	36.91	54	-17.09	101	168
7	3905.28PK	38.66	12.65	51.31	74	-22.69	101	22
7	3905.28AV	38.66	-1.38	37.28	54	-16.72	101	22
8	4339.20PK	39.81	9.57	49.38	74	-24.62	101	136
8	4339.20AV	39.81	-4.46	35.35	54	-18.65	101	136

REMARKS:1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

20log (Duty cycle) = 20log (71*0.28/100) = -14.03dB

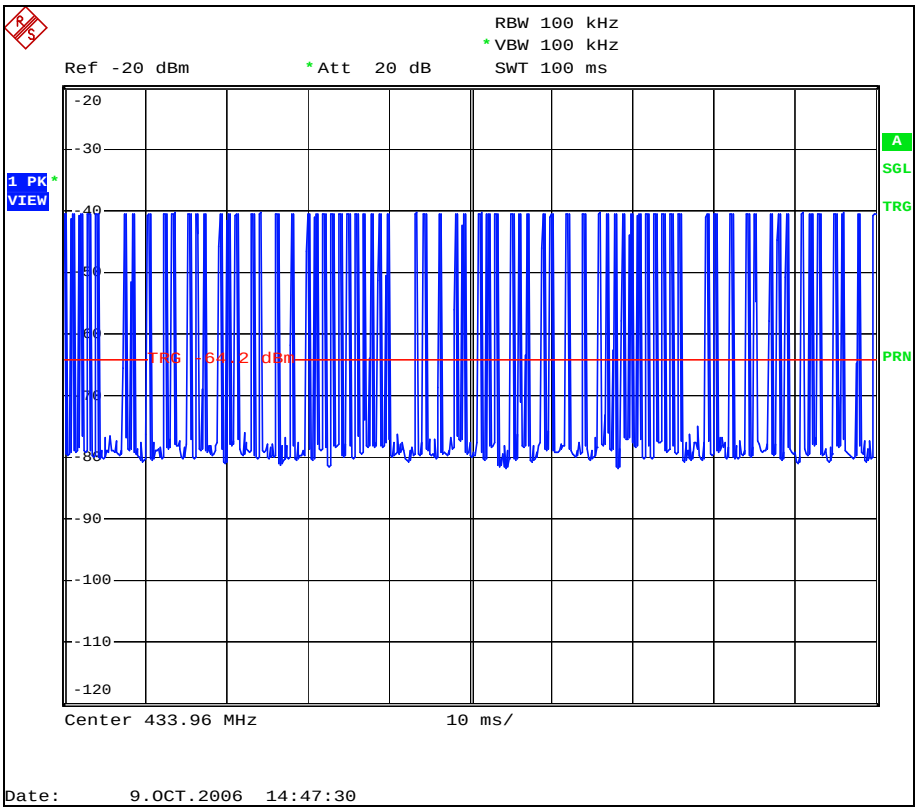
Please see page 34 for plotted duty.

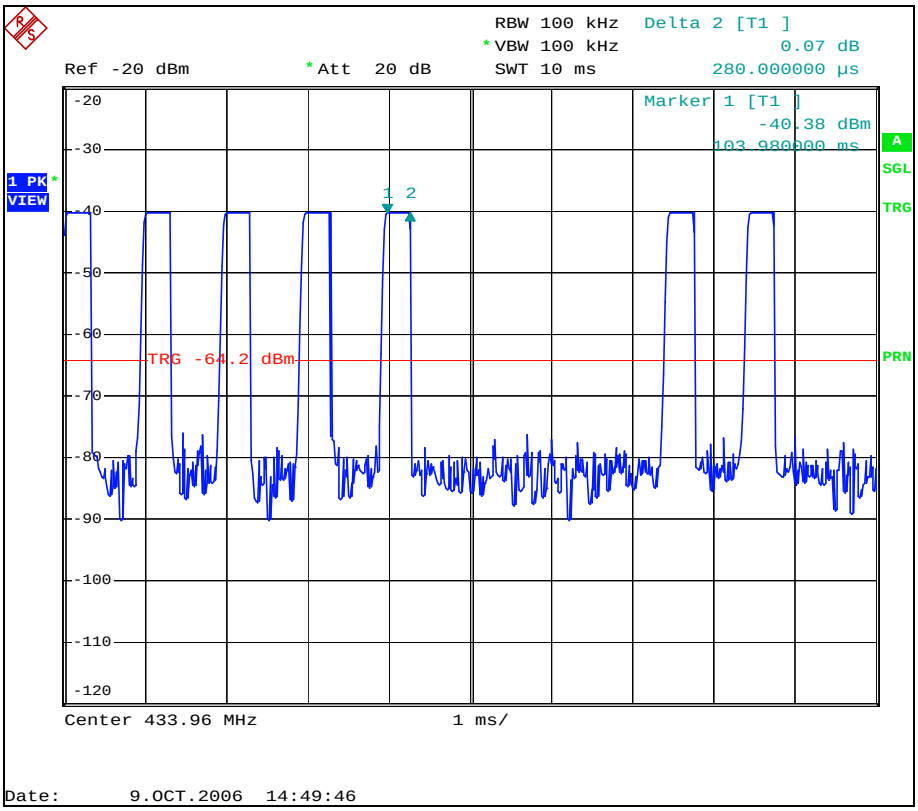
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	1301.76PK	30.33	31.28	61.61	74	-12.39	100	221
1	**1301.76AV**	**30.33**	**17.25**	**47.58**	**54**	**-6.42**	**100**	**221**
2	1735.68PK	30.8	20.22	51.02	74	-22.98	101	12
2	1735.68AV	30.8	6.19	36.99	54	-17.01	101	12
3	2169.60PK	34.59	17.05	51.64	74	-22.36	101	136
3	2169.60AV	34.59	3.02	37.61	54	-16.39	101	136
4	2603.52PK	35.29	15.95	51.24	74	-22.76	101	22
4	2603.52AV	35.29	1.92	37.21	54	-16.79	101	22
5	3037.44PK	36.35	16.8	53.15	74	-20.85	101	87
5	3037.44AV	36.35	2.77	39.12	54	-14.88	101	87
6	3471.36PK	36.57	10.54	47.11	74	-26.89	101	168
6	3471.36AV	36.57	-3.49	33.08	54	-20.92	101	168
7	3905.28PK	38.66	12.26	50.92	74	-23.08	101	14
7	3905.28AV	38.66	-1.77	36.89	54	-17.11	101	14
8	4339.20PK	39.81	13.38	53.19	74	-20.81	101	33
8	4339.20AV	39.81	-0.65	39.16	54	-14.84	101	33

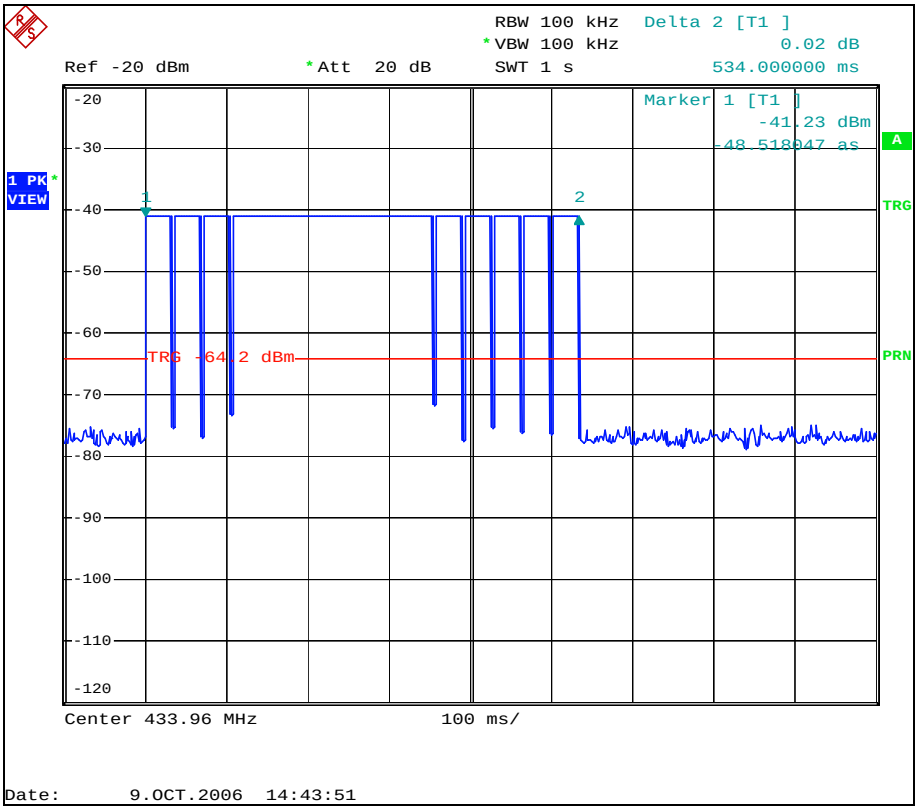
REMARKS:1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

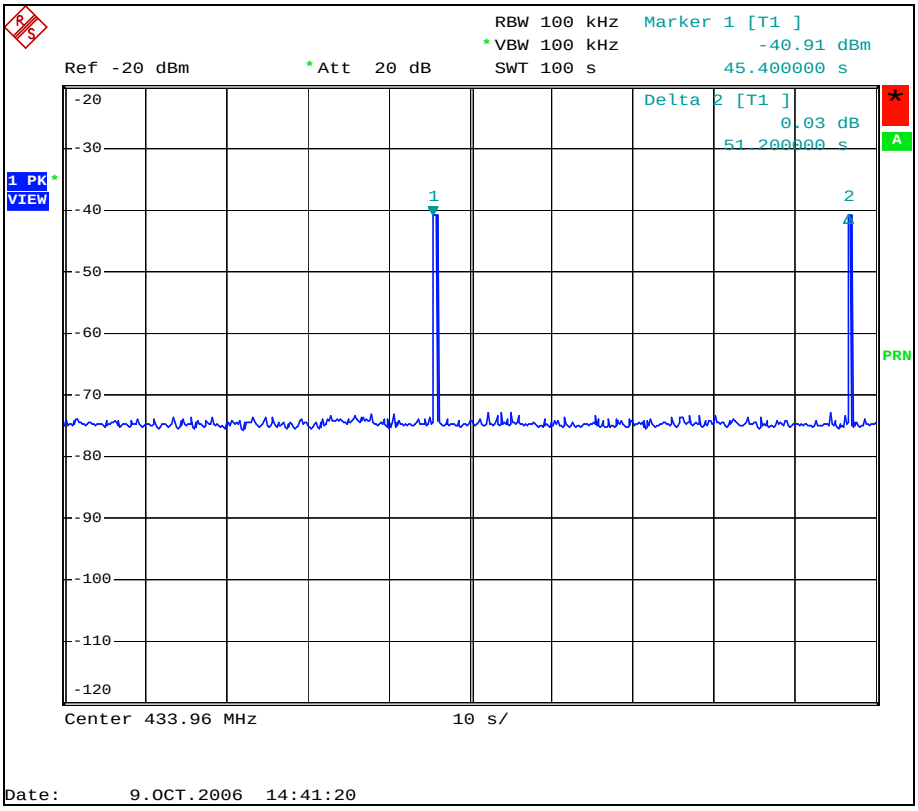
20log (Duty cycle) = 20log (71*0.28/100) = -14.03dB

Please see page 34 for plotted duty.


RBW 100 kHz
*VBW 100 kHz
Ref -20 dBm
*Att 20 dB
SWT 100 ms
1 PK*
VIEW
A
SGL
TRG
PRN
TRG -64.2 dBm
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110
-120
Center 433.96 MHz
10 ms/
Date: 9.OCT.2006 14:47:30


RBW 100 kHz
Delta 2 [T1]
*VBW 100 kHz
0.07 dB
Ref -20 dBm
*Att 20 dB
SWT 10 ms
280.000000 µs
Marker 1 [T1]
-40.38 dBm
103.980000 ms
1 PK*
VIEW
A
SGL
TRG
PRN
1 2
TRG -64.2 dBm
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110
-120
Center 433.96 MHz
1 ms/
Date: 9.OCT.2006 14:49:46


RBW 100 kHz
*VBW 100 kHz
SWT 1 s
Delta 2 [T1]
0.02 dB
534.000000 ms
Ref -20 dBm
*Att 20 dB
Marker 1 [T1]
-41.23 dBm
-48.518047 as
1 PK
VIEW
A
TRG
PRN
TRG -64.2 dBm
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110
-120
Center 433.96 MHz
100 ms/
Date: 9.OCT.2006 14:43:51


RBW 100 kHz
*VBW 100 kHz
SWT 100 s
Marker 1 [T1]
-40.91 dBm
45.400000 s
Ref -20 dBm
*Att 20 dB
Delta 2 [T1]
0.03 dB
51.200000 s
1 PK
VIEW
A
PRN
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110
-120
Center 433.96 MHz
10 s/
Date: 9.OCT.2006 14:41:20

Mode 4

Below 1GHz

EUT	wireless wind speed sensor	**MODEL NO.**	00594WA4
CHANNEL	Channel 1	**FREQUENCY RANGE**	30 ~ 1000 MHz
MODULATION TYPE	ASK	**INPUT POWER (SYSTEM)**	3 Vdc from battery
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**DETECTOR FUNCTION**	Quasi-Peak / Peak/ Average
TESTED BY	BRIGHT		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	141.55QP	16.34	-7.34	9	43.5	-34.5	100	98
2	158.53QP	17.06	-7.36	9.7	43.5	-33.8	127	205
3	350.33QP	17.48	7.12	24.6	46	-21.4	198	245
4	369.27QP	18.01	5.61	23.62	46	-22.38	283	174
*5	433.92PK	19.74	44.56	64.3	92.87	-28.57	100	26
*5	433.92AV	19.74	30.41	50.15	72.87	-22.72	100	26
6	709QP	24.76	-8.09	16.67	46	-29.33	99	155
7	762.35QP	25.47	-7.83	17.64	46	-28.36	108	101
8	867.84PK	26.45	17.33	43.78	72.87	-29.09	100	112
8	867.84AV	26.45	4.18	30.63	52.87	-22.24	100	112

NOTE: 1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB)
2. Correction Factor (dB) = Antenna Factor (dB) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. "*" = Fundamental frequency
6. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

20log (Duty cycle) = 20log (70*0.28/100) = -14.15dB

Please see page 40 for plotted duty.

EUT	wireless wind speed sensor	**MODEL NO.**	00594WA4
CHANNEL	Channel 1	**FREQUENCY RANGE**	30 ~ 1000 MHz
MODULATION TYPE	ASK	**INPUT POWER (SYSTEM)**	3 Vdc from battery
ENVIRONMENTAL CONDITIONS	25deg. C, 61%RH, 991hPa	**DETECTOR FUNCTION**	Quasi-Peak / Peak/ Average
TESTED BY	BRIGHT		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	201.56QP	12.98	7.56	20.54	43.5	-22.96	100	356
2	224.7QP	14.17	8.84	23.01	46	-22.99	100	0
*3	433.92PK	19.74	32.13	51.87	92.87	-41	101	31
*3	433.92AV	19.74	17.98	37.72	72.87	-35.15	101	31
4	481.05QP	20.6	-6.89	13.71	46	-32.29	100	151
5	507.73QP	21.03	-7.12	13.91	46	-32.09	100	271
6	699.3QP	24.57	-6.85	17.72	46	-28.28	100	265
7	806QP	25.95	-7.44	18.51	46	-27.49	100	185
8	867.84PK	26.45	10.76	37.21	72.87	-35.66	101	19
8	867.84AV	26.45	-3.39	23.06	52.87	-29.81	101	19

NOTE: 1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB)
2. Correction Factor (dB) = Antenna Factor (dB) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. "*" = Fundamental frequency
6. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

20log (Duty cycle) = 20log (70*0.28/100) = -14.15dB

Please see page 40 for plotted duty.

Above 1GHz

EUT	wireless wind speed sensor	**MODEL NO.**	00594WA4
CHANNEL	Channel 1	**FREQUENCY RANGE**	1GHz – 5GHz
MODULATION TYPE	ASK	**INPUT POWER (SYSTEM)**	3Vdc from battery
ENVIRONMENTAL CONDITIONS	25deg. C, 61%RH, 991hPa	**DETECTOR FUNCTION**	Peak / Average
TESTED BY	Bright		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	1301.76PK	30.33	24.5	54.83	74	-19.17	100	156
1	1301.76AV	30.33	10.35	40.68	54	-13.32	100	156
2	1735.68PK	30.8	21.68	52.48	74	-21.52	101	236
2	1735.68AV	30.8	7.53	38.33	54	-15.67	101	236
3	2169.60PK	34.59	17.82	52.41	74	-21.59	101	354
3	2169.60AV	34.59	3.67	38.26	54	-15.74	101	354
4	2603.52PK	35.29	18.19	53.48	74	-20.52	101	22
4	2603.52AV	35.29	4.04	39.33	54	-14.67	101	22
5	3037.44PK	36.35	17.46	53.81	74	-20.19	101	39
5	3037.44AV	36.35	3.31	39.66	54	-14.34	101	39
6	3471.36PK	36.57	14.73	51.3	74	-22.7	101	48
6	3471.36AV	36.57	0.58	37.15	54	-16.85	101	48
7	3905.28PK	38.66	13.23	51.89	74	-22.11	101	69
7	3905.28AV	38.66	-0.92	37.74	54	-16.26	101	69
8	4339.20PK	39.81	9.82	49.63	74	-24.37	101	245
8	4339.20AV	39.81	-4.33	35.48	54	-18.52	101	245

REMARKS:1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

20log (Duty cycle) = 20log (70*0.28/100) = -14.15dB

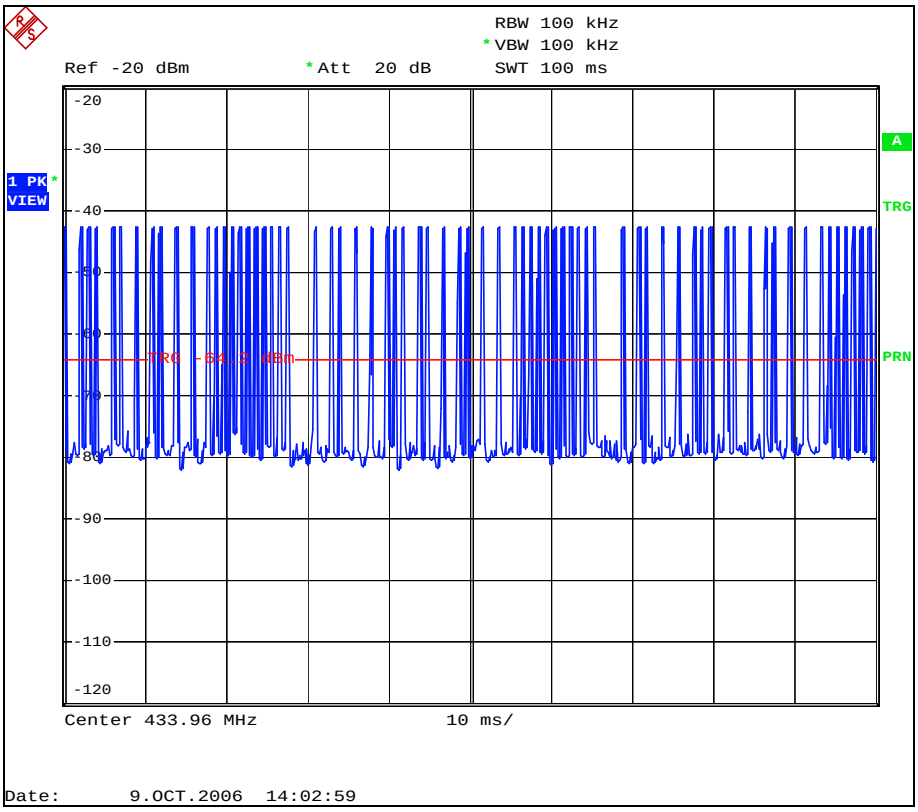
Please see page 40 for plotted duty.

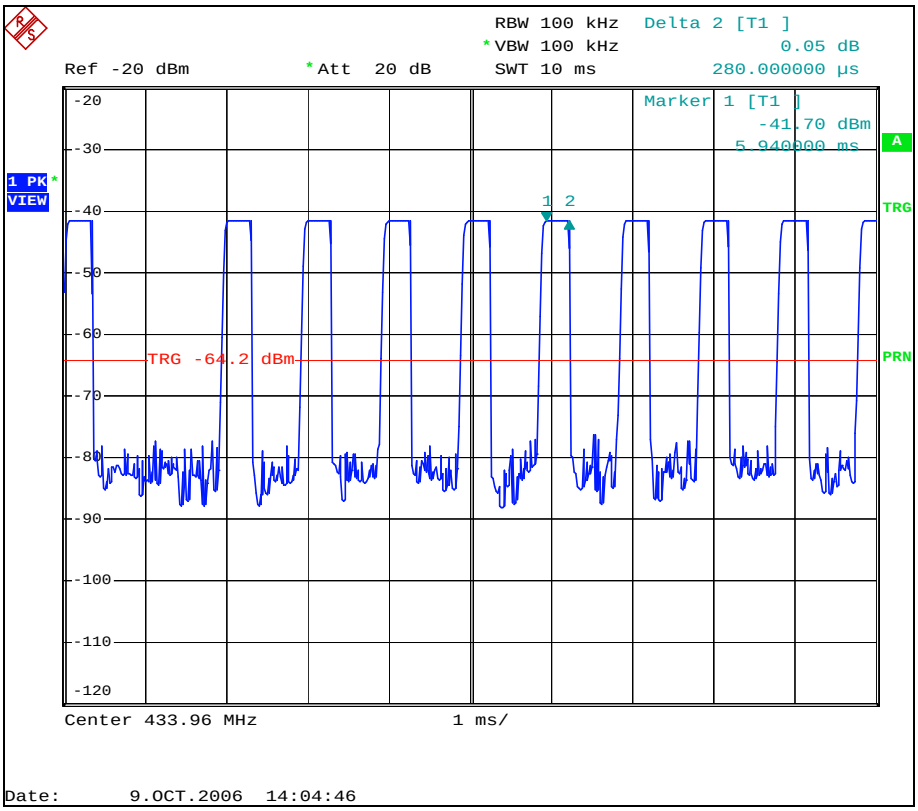
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	1301.76PK	30.33	30.39	60.72	74	-13.28	100	136
1	**1301.76AV**	**30.33**	**16.24**	**46.57**	**54**	**-7.43**	**100**	**136**
2	1735.68PK	30.8	19.45	50.25	74	-23.75	101	69
2	1735.68AV	30.8	5.3	36.1	54	-17.9	101	69
3	2169.60PK	34.59	16.5	51.09	74	-22.91	101	265
3	2169.60AV	34.59	2.35	36.94	54	-17.06	101	265
4	2603.52PK	35.29	15.62	50.91	74	-23.09	101	68
4	2603.52AV	35.29	1.47	36.76	54	-17.24	101	68
5	3037.44PK	36.35	16.69	53.04	74	-20.96	101	97
5	3037.44AV	36.35	2.54	38.89	54	-15.11	101	97
6	3471.36PK	36.57	9.9	46.47	74	-27.53	101	236
6	3471.36AV	36.57	-4.25	32.32	54	-21.68	101	236
7	3905.28PK	38.66	11.84	50.5	74	-23.5	101	114
7	3905.28AV	38.66	-2.31	36.35	54	-17.65	101	114
8	4339.20PK	39.81	12.63	52.44	74	-21.56	101	68
8	4339.20AV	39.81	-1.52	38.29	54	-15.71	101	68

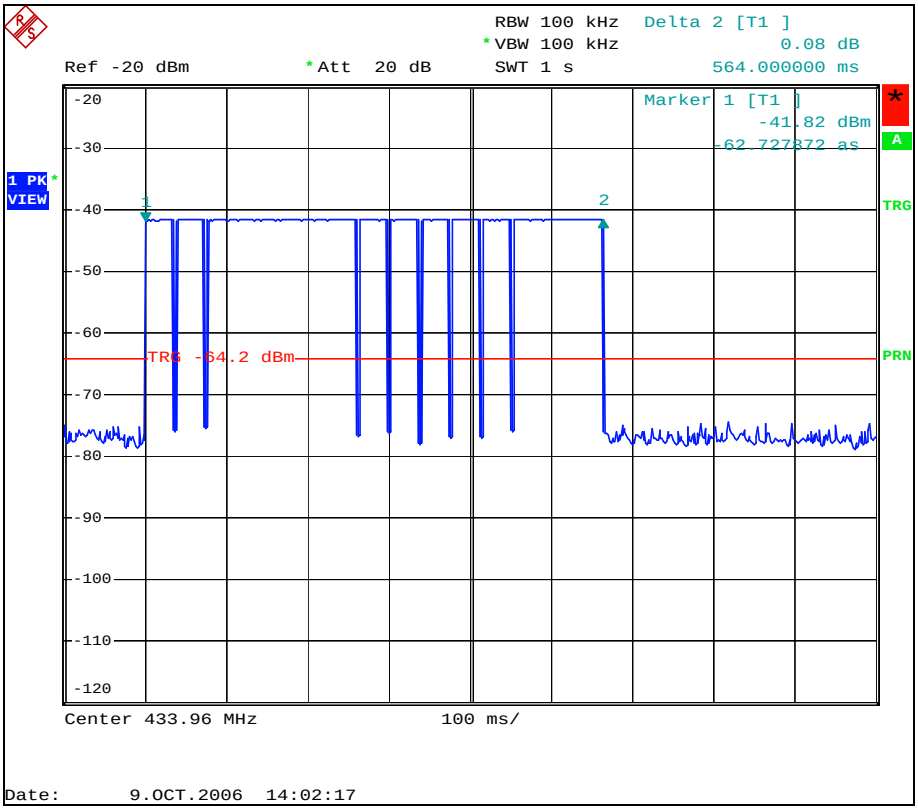
REMARKS:1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle)
Where the duty factor is calculated from following formula:

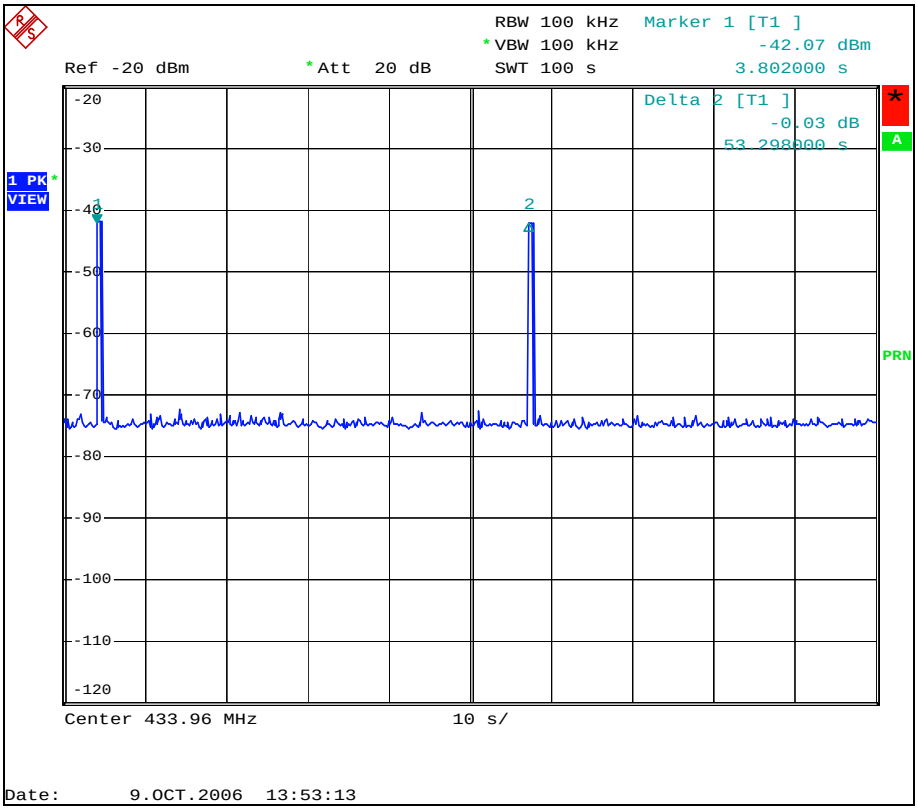
20log (Duty cycle) = 20log (70*0.28/100) = -14.15dB

Please see page 40 for plotted duty.


RBW 100 kHz
*VBW 100 kHz
Ref -20 dBm
*Att 20 dB
SWT 100 ms
1 PK*
VIEW
A
TRG
PRN
TRG -64.2 dBm
Center 433.96 MHz
10 ms/
Date: 9.OCT.2006 14:02:59


RBW 100 kHz
Delta 2 [T1]
*VBW 100 kHz
0.05 dB
Ref -20 dBm
*Att 20 dB
SWT 10 ms
280.000000 µs
Marker 1 [T1]
-41.70 dBm
5.940000 ms
1 PK*
VIEW
A
TRG
PRN
1 2
TRG -64.2 dBm
Center 433.96 MHz
1 ms/
Date: 9.OCT.2006 14:04:46


RBW 100 kHz
Delta 2 [T1]
*VBW 100 kHz
0.08 dB
Ref -20 dBm
*Att 20 dB
SWT 1 s
564.000000 ms
Marker 1 [T1]
-41.82 dBm
-62.727872 as
1 PK
VIEW
TRG
PRN
TRG -64.2 dBm
Center 433.96 MHz
100 ms/
Date: 9.OCT.2006 14:02:17


RBW 100 kHz
Marker 1 [T1]
*VBW 100 kHz
-42.07 dBm
Ref -20 dBm
*Att 20 dB
SWT 100 s
3.802000 s
Delta 2 [T1]
-0.03 dB
53.298000 s
1 PK
VIEW
PRN
Center 433.96 MHz
10 s/
Date: 9.OCT.2006 13:53:13

5 APPENDIX - INFORMATION ON THE TESTING LABORATORY

We, ADT (Shanghai) Corp., was founded in 2003 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratory is accredited and approved by the following approval agencies according to ISO/IEC 17025.

JAPAN	VCCI
USA	FCC, A2LA
Norway	DNV

Copies of accreditation certificates of our laboratory obtained from approval agencies can be downloaded from our web site: www.cnadt.com
If you have any comments, please feel free to contact us at the following:

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