

2.5. Test Result of Conducted Emission

Product : Acer Bluetooth Shuttle
 Test Item : Conducted Emission Test
 Test Mode : Normal Operation

Frequency	Cable	LISN	Reading Level	Measurement Level	Limits
	Loss	Factor			
MHz	dB	dB	dBuV	dBuV	dBuV

Line 1

Quasi-Peak:

0.465	0.06	0.10	25.01	25.17	48.00
0.528	0.07	0.10	27.16	27.33	48.00
1.255	0.11	0.11	21.97	22.19	48.00
3.172	0.17	0.15	26.48	26.80	48.00
*4.230	0.19	0.16	33.15	33.50	48.00
16.516	0.33	0.38	25.25	25.96	48.00

Line 2

Quasi-Peak:

0.595	0.07	0.10	28.94	29.11	48.00
1.056	0.10	0.10	28.06	28.27	48.00
*4.427	0.19	0.16	34.29	34.65	48.00
7.069	0.24	0.18	29.73	30.15	48.00
14.536	0.32	0.33	28.45	29.10	48.00
16.776	0.34	0.39	30.97	31.69	48.00

Remarks :

1. “ * ” means that this data is the worst emission level.
2. The average measurement was not performed when the peak measured data under the limit of average detection.

3. Radiated Emission

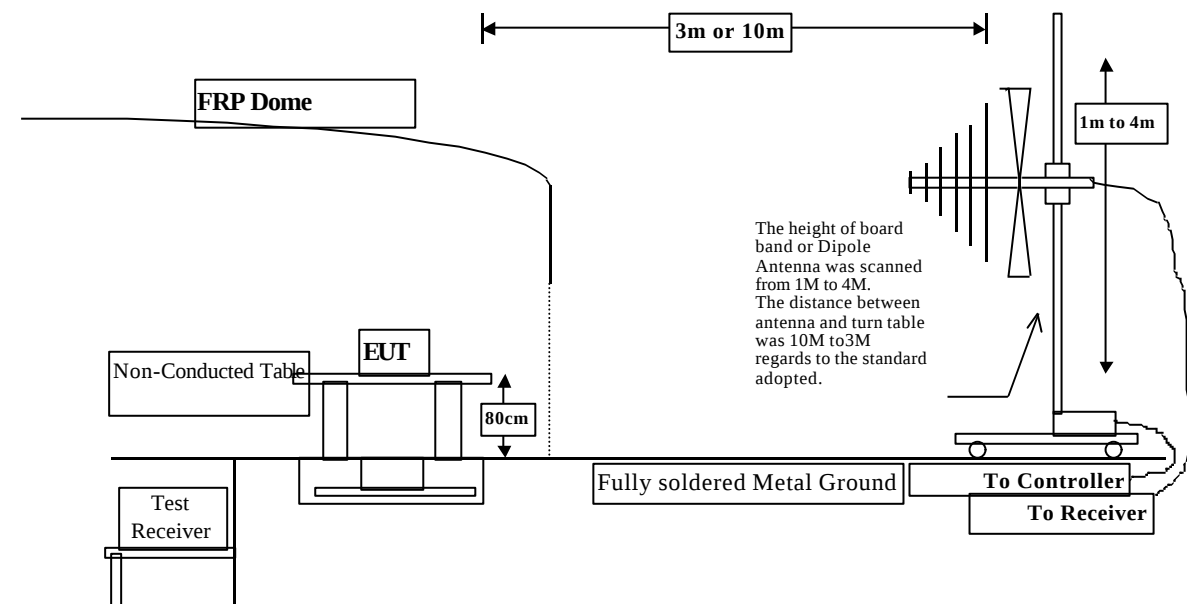
3.1. Test Equipment

The following test equipment are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 1	X	Test Receiver	R & S	ESCS 30 / 825442/14	May, 2001
		Spectrum Analyzer	Advantest	R3261C / 71720140	May, 2001
		Pre-Amplifier	HP	8447D/3307A01812	May, 2001
	X	Bilog Antenna	Chase	CBL6112B / 12452	Sep., 2000
	X	Horn Antenna	EM	EM6917 / 103325	May, 2001
Site # 2	X	Test Receiver	R & S	ESCS 30 / 825442/17	May, 2001
		Spectrum Analyzer	Advantest	R3261C / 71720609	May, 2001
		Pre-Amplifier	HP	8447D/3307A01814	May, 2001
	X	Bilog Antenna	Chase	CBL6112B / 2455	Sep., 2000
	X	Horn Antenna	EM	EM6917 / 103325	May, 2001

- Note:
1. All equipments that need to calibrate are with calibration period of 1 year.
 2. Mark "X" test instruments are used to measure the final test results.

3.2. Test Setup



Spurious Emissions

3.3. Test Condition

Standard Temperature and Humidity, Standard Test Voltage

3.4. Limits

➤ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

Frequency MHz	50dB below of the fundamental (dBuV/m @3m)	15.209 Limits (dBuV/m @3m)	General Radiated Limits (dBuV/m @3m)
30-88	40	40	40
88-216	43.5	43.5	43.5
216-960	44	46	46
Above 960	44	54	54

- Remarks :
1. RF Line Voltage (dBuV) = 20 log RF Line Voltage (uV)
 2. In the Above Table, the tighter limit applies at the band edges.
 3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3.5. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:1992 on radiated measurement.

The additional latch filter below 1GHz was used to measure the level of harmonics radiated emission during field strength of harmonics measurement.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCS 30)is 120 kHz, above 1GHz are 1 MHz.

The frequency range from **30MHz to 10th harmonics** is checked.

3.6. Test Result of Radiated Emission

Product : Acer Bluetooth Shuttle
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.1 OATS
 Test Mode : Channel 00

Freq.	Cable	Probe	PreAMP	Reading	Measurement	Margin	Limit
MHz	Loss	Factor		Level			
	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

Peak Detector (Horizontal)

4804.570	6.26	33.48	34.78	59.50	64.46	9.54	74.00
7205.510	8.30	36.20	34.90	55.78	65.38	8.62	74.00
9608.040	10.14	37.42	35.10	56.42	<68.88	5.12	74.00
12010.01	11.87	39.11	34.69	56.56	<72.86	1.14	74.00

Average Detector (Horizontal)

4804.065	6.26	33.48	35.90	44.21	48.05	5.95	54.00
7206.050	8.30	36.20	34.90	42.72	52.32	1.68	54.00

Peak Detector (Vertical)

4804.350	6.26	33.48	34.78	65.99	70.95	3.05	74.00
7206.530	8.30	36.20	34.90	57.13	66.73	7.27	74.00
9607.970	10.14	37.42	35.10	57.07	<69.53	4.47	74.00
12010.02	11.87	39.11	34.69	55.53	<71.83	2.17	74.00

Average Detector (Vertical)

4804.140	6.26	33.48	34.78	47.68	52.64	1.36	54.00
7206.100	8.30	36.20	34.90	42.50	52.10	1.90	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ * ”, means this data is the worst emission level.
3. Emission Level = Reading Level + Antenna Factor + Cable loss
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Acer Bluetooth Shuttle
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.1 OATS
 Test Mode : Channel 39

Freq.	Cable	Probe	PreAMP	Reading	Measurement	Margin	Limit
	Loss	Factor		Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

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Peak Detector (Horizontal)

4881.845	6.32	33.56	34.75	58.89	64.02	9.98	74.00
7323.050	8.39	36.32	34.90	56.69	66.51	7.49	74.00
9763.885	10.25	37.45	35.10	53.68	<66.28	7.72	74.00
12204.76	12.00	39.18	34.54	54.02	<70.67	3.33	74.00

Average Detector (Horizontal)

4882.010	6.32	33.56	34.75	42.91	48.04	5.96	54.00
7323.235	8.39	36.32	34.90	42.21	52.03	1.97	54.00

Peak Detector (Vertical)

4882.155	6.32	33.56	34.75	62.19	67.32	6.68	74.00
7323.125	8.39	36.32	34.90	60.94	70.76	3.24	74.00
9763.775	10.25	37.45	35.10	56.78	<69.38	4.62	74.00
12204.56	12.00	39.18	34.54	56.81	<72.46	1.54	74.00

Average Detector (Vertical)

4881.980	6.32	33.56	34.75	46.51	51.64	2.36	54.00
7323.045	8.39	36.32	34.90	43.11	52.93	1.07	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ * ”, means this data is the worst emission level.
3. Emission Level = Reading Level + Antenna Factor + Cable loss
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Acer Bluetooth Shuttle
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.1 OATS
 Test Mode : Channel 78

Freq.	Cable	Probe	PreAMP	Reading	Measurement	Margin	Limit
	Loss	Factor		Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

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Peak Detector (Horizontal)

4960.080	6.40	33.66	34.72	59.85	65.20	8.80	74.00
7440.655	8.49	36.44	34.90	52.46	62.49	11.51	74.00
9919.850	10.38	37.48	35.10	55.24	<68.00	6.00	74.00
12399.84	12.14	39.26	34.37	54.56	<71.59	2.41	74.00

Average Detector (Horizontal)

4960.015	6.40	33.66	34.72	44.56	49.91	4.09	54.00
7440.185	8.49	36.44	34.90	39.24	49.27	4.73	54.00

Peak Detector (Vertical)

4959.640	6.40	33.66	34.72	64.54	69.89	4.11	74.00
7439.980	8.49	36.44	34.90	57.26	67.29	6.71	74.00
9920.445	10.38	37.48	35.10	55.47	<68.23	5.77	74.00
12400.11	12.14	39.26	34.37	54.45	<71.48	2.52	74.00

Average Detector (Vertical)

4960.050	6.40	33.66	34.72	47.25	52.60	1.40	54.00
7440.050	8.49	36.44	34.90	40.42	50.45	3.55	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ * ”, means this data is the worst emission level.
3. Emission Level = Reading Level + Antenna Factor + Cable loss
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Acer Bluetooth Shuttle
 Test Item : General Radiated Emission Data
 Test Site : No.1 OATS
 Test Mode : Normal Operation

Freq.	Cable	Probe	PreAMP	Reading	Measurement	Margin	Limit
	Loss	Factor		Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
=====							
Horizontal:							
100.810	1.31	11.44	26.88	39.60	25.48	18.02	43.50
160.950	1.56	10.15	26.90	40.60	25.40	18.10	43.50
264.740	1.98	12.33	26.94	48.00	35.37	10.63	46.00
*321.000	2.21	13.35	26.92	48.40	37.04	8.96	46.00
412.180	2.58	14.36	26.77	46.00	36.17	9.83	46.00
455.830	2.76	14.20	26.70	46.00	36.26	9.74	46.00

Vertical:							
121.180	1.39	11.78	26.88	46.00	32.29	11.21	43.50
159.980	1.55	10.19	26.90	43.20	28.04	15.46	43.50
202.660	1.72	9.21	26.91	44.80	28.82	14.68	43.50
241.460	1.88	11.44	26.93	50.00	36.40	9.60	46.00
*299.660	2.12	12.53	26.95	51.20	38.90	7.10	46.00
695.420	3.75	16.07	26.33	41.60	35.09	10.91	46.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ * ”, means this data is the worst emission level.
3. Emission Level = Reading Level + Antenna Factor + Cable loss