香 港 標 準 及 檢 定 中 心

Hong Kong Standards and Testing Centre

Date: 2003-07-14

No.: HM110671

TEST REPORT

FCC PART 15 SUBPART C CERTIFICATION REPORT

FOR LOW POWER TRANSMITTER

TEST REPORT No.: HM110671

Equipment Under Test [EUT]:	Wireless Link for POS/ECR
Model Number:	SPR-I
Applicant:	Chung Nam Electronics Co., Ltd.
FCC ID :	Q72SPR-I

Conditions of Issuance of Test Reports

1. All services and goods are accepted by Hong Kong Standards & Testing Centre Ltd. (the "Company") only on the basis that such terms and conditions constitute a binding agreement between the Company and any person or company requesting the services ("the Client"). 2. Any report issued by the Company as the result of testing services (the "Report") shall be deemed to be solely for the use of the Client. The Report is issued to the Client on the understanding that the Report is not to be reproduced except in full without prior written consent of the Company, and that the Report is not to be used in any other manner or for any other purpose, or be delivered to any other persons or entities without prior written consent of the Company. The Client undertakes to indemnify the Company against any loss or damage caused by any breach of the foregoing undertaking, or by any other unauthorised use of the Report, howsoever arising, whether in contract or tort or otherwise, including but not limited to any claim by any other persons or entities directly or indirectly connected with the Client, for any loss or damage howsoever arising from or in connection with the Report. 3. The Company's liability in respect of any claim for loss or damage howsoever arising shall in no event exceed the fees paid by the Client for the relevant testing services, or such other sum as may be agreed between the Company and the Client in writing prior to the commencement of the relevant testing services. 4. The Report shall not be used in any manner to imply that the Company has any connection with, or has the approval of, the Client or any other person or entity. 5. Samples submitted for testing may be retained for a period of three months from the date of the Report, after which they will be disposed of at the Company's discretion. 6. The Company may, at its discretion, refuse to accept any instructions or orders. Reports issued by the Company in respect of such instructions or orders will be issued on the basis that the Company has not verified the accuracy of the information provided by the Client. 7. Unless otherwise agreed in writing, the Company will not accept any instructions or orders from persons or companies other than the Client. 8. Samples submitted for testing are accepted by the Company on the understanding that they are in good condition and are of the quality and description specified by the Client. Unless otherwise agreed in writing, the Company will not accept any responsibility for any loss or damage howsoever arising from or in connection with any defect in the samples which would be apparent on a reasonable inspection, or which would be revealed by the testing specified by the Client, or which arises from the nature of the samples. 9. Samples which are perishable in nature will be disposed of immediately after testing. 10. Samples which are the property of the Company, by reason of their nature, cannot be returned to the Client. 11. Samples which are not the property of the Company will be returned to the Client at the Client's expense. 12. The Company shall not be responsible for any loss or damage howsoever caused to samples which are in the possession or under the control of the Company. 13. 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Conditions of Issuance of Test Reports

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Appendix A

List of Measurement Equipment — Page 34 of 36

Appendix B

Photographs — Page 35-36 of 36

Conditions of Issuance of Test Reports
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CONCLUSION

The submitted product was deemed to have COMPLIED with the requirements of Federal Communications Commission [FCC] Rules and Regulations Part 15. The tests were performed in accordance with the standards described above and on Section 2.2 in this Test Report.

Verified by

K C Lee
for Chief Executive

Conditions of Issuance of Test Reports

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1.0 General Details

1.1 Test Laboratory

The Hong Kong Standards and Testing Centre Ltd.
EMC Laboratory
10 Dai Wang Street, Taipo Industrial Estate
New Territories, Hong Kong

1.2 Applicant Details

Applicant

CHUNG NAM ELECTRONICS CO., LTD.
No. 38 Luogang Road, LuoGang Industrial Zone,
Buji, Shen Zhen, China

HKSTC Code Number for Applicant CHN013

Manufacturer

CHUNG NAM ELECTRONICS CO., LTD.
No. 38 Luogang Road, LuoGang Industrial Zone,
Buji, Shen Zhen, China

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1.3 Equipment Under Test [EUT]

Description of Sample

Product:	Wireless Link for POS/ECR
Manufacturer:	Chung Nam Electronics Co., Ltd.
Brand Name:	SPRINTER
Model Number:	SPR-I
Input Voltage:	The product draws power from the signal port of the console

1.3.1 Description of EUT Operation

The Equipment Under Test (EUT) is an Chung Nam Electronics Co., Ltd.., Wireless Link for POS/ECR. The transmitter is a 2 button transmitter. The EUT continues to transmit while button is being pressed, Modulation by IC. and tape is pulse modulation.

1.4 Date of Order

2003-05-26

1.5 Submitted Sample(s):

1 Sample per model

1.6 Test Duration

2003-06-02 to 2003-06-12

1.7 Country of Origin

China

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1.8 Additional Information of EUT

	Submitted	Not Available
User Manual	☒	☐
Part List	☒	☐
Circuit Diagram	☒	☐
Printed Circuit Board [PCB] Layout	☒	☐
Block diagram	☒	☐
FCC ID Label	☒	☐

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2.0 Technical Details

2.1 Investigations Requested

Perform ElectroMagnetic Interference measurement in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15 and ANSI C63.4:2000 for FCC Certification.

2.2 Test Standards and Results Summary Tables

EMISSION
Results Summary

Test Condition	Test Requirement	Test Method	Class / Severity	Test Result		
				Pass	Failed	N/A
Field Strength of Fundamental Emissions & Spurious Emissions	FCC 47CFR 15.249	ANSI C63.4:2000	N/A	☒	☐	☐
Radiated Emissions, 30MHz to 1GHz	FCC 47CFR 15.109	ANSI C63.4:2000	Class B	☒	☐	☐
Conducted Emissions on AC, 0.15MHz to 30MHz	FCC 47CFR 15.207	ANSI C63.4:2000	Class B	☒	☐	☐

Note: N/A - Not Applicable

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3.0 Test Results

3.1 Emission

3.1.1 Radiated Emissions

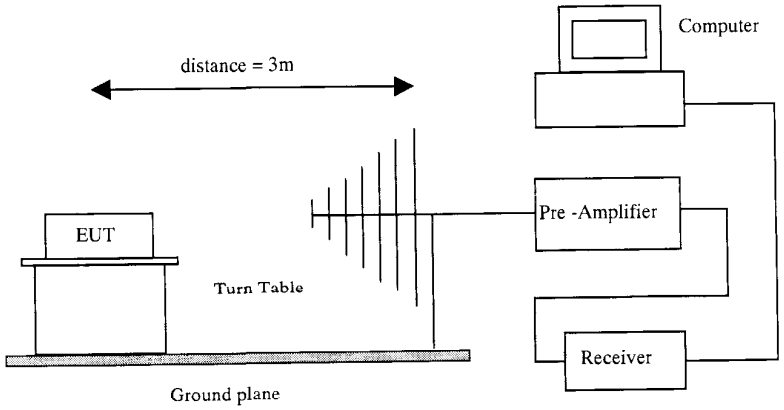
Test Requirement:	FCC 47CFR 15.249
Test Method:	ANSI C63.4:2000
Test Date:	2003-06-12
Mode of Operation:	On mode

Test Method:

The sample was placed 0.8m above the ground plane on the OATS *. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigate all operating modes, rotated about all 3 axis (X, Y & Z) to obtain worst position, manipulating interconnecting cables, rotating turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

*: OATS [Open Area Test Site] located at HKSTC with a metal ground plane on filed with the FCC pursuant to section 2.948 of the FCC rules, with Registration Number: 90657.

Test Setup:



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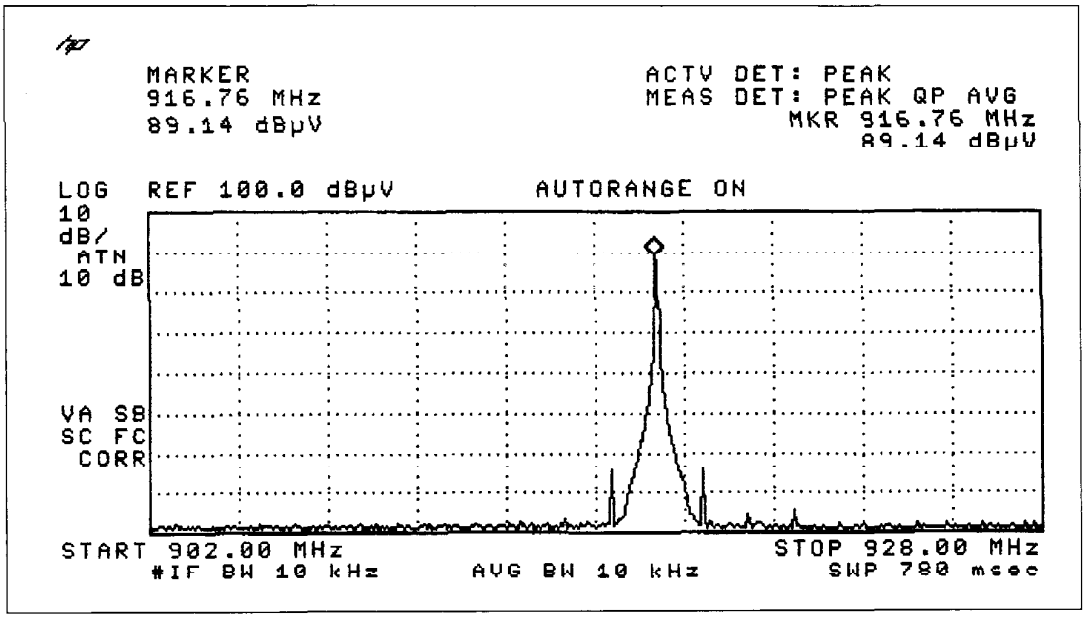
Limits for Field Strength of Fundamental Emissions [FCC 47CFR 15.249]:

Frequency Range of Fundamental [MHz]	Field Strength of Fundamental Emission [Millivolts/meter]	Field Strength of Fundamental Emission [microvolts/meter]
902-928	50	500
2400-2483.5	50	500
5725-5875	50	500
24000-22500	250	2500

** Linear interpolations

Results: KP1



Field Strength of Fundamental Emissions Quasi-Peak						
Frequency MHz	Measured Level @3m dBµV/m	Correction Factor dBµV/m	Field Strength dBµV/m	Field Strength µV/m	Limit @3m µV/m	Antenna Polarity
916.70	59.6	29.8	89.4	29512.1	50,000	Vertical

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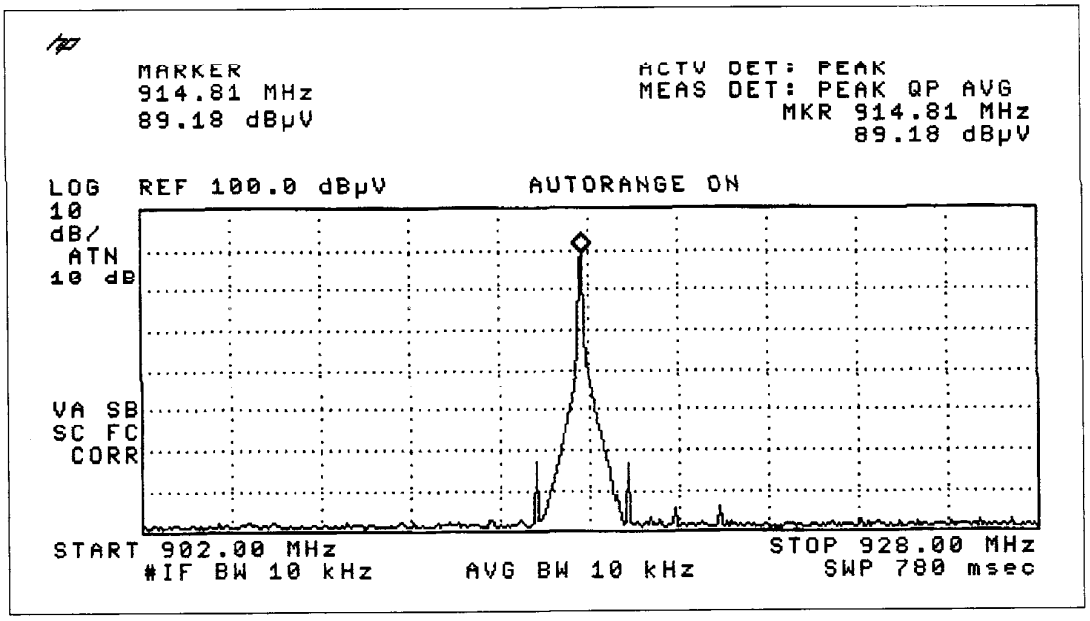
Results: KP2



Field Strength of Fundamental Emissions Quasi-Peak						
Frequency MHz	Measured Level @3m dBµV/m	Correction Factor dBµV/m	Field Strength dBµV/m	Field Strength µV/m	Limit @3m µV/m	Antenna Polarity
914.80	58.8	29.8	88.6	26915.3	50,000	Vertical

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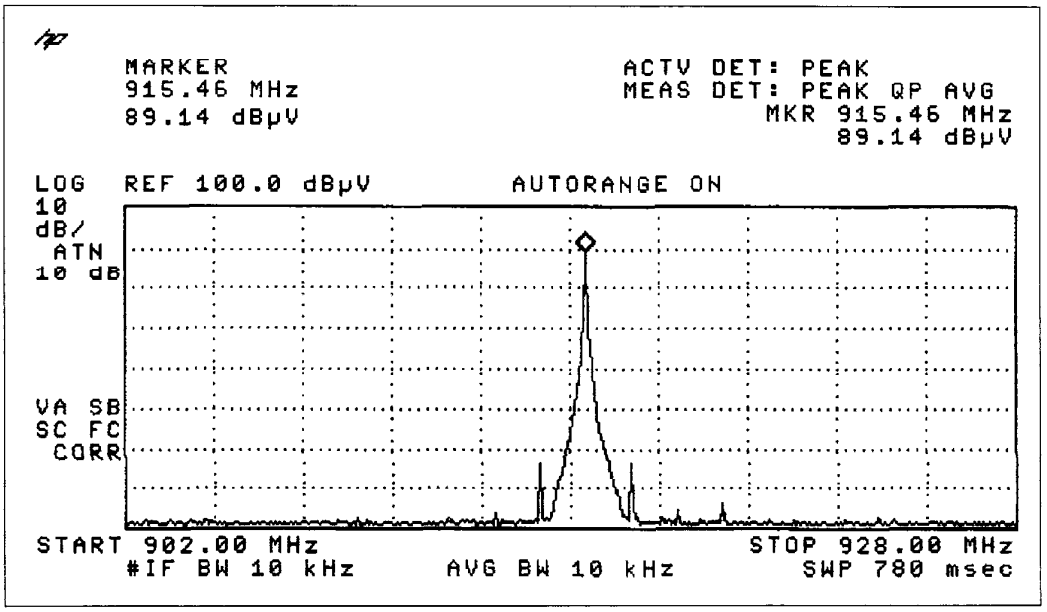
Results: KP3



Field Strength of Fundamental Emissions Quasi-Peak						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	Antenna Polarity
915.46	57.1	29.8	86.9	22130.9	50,000	Vertical

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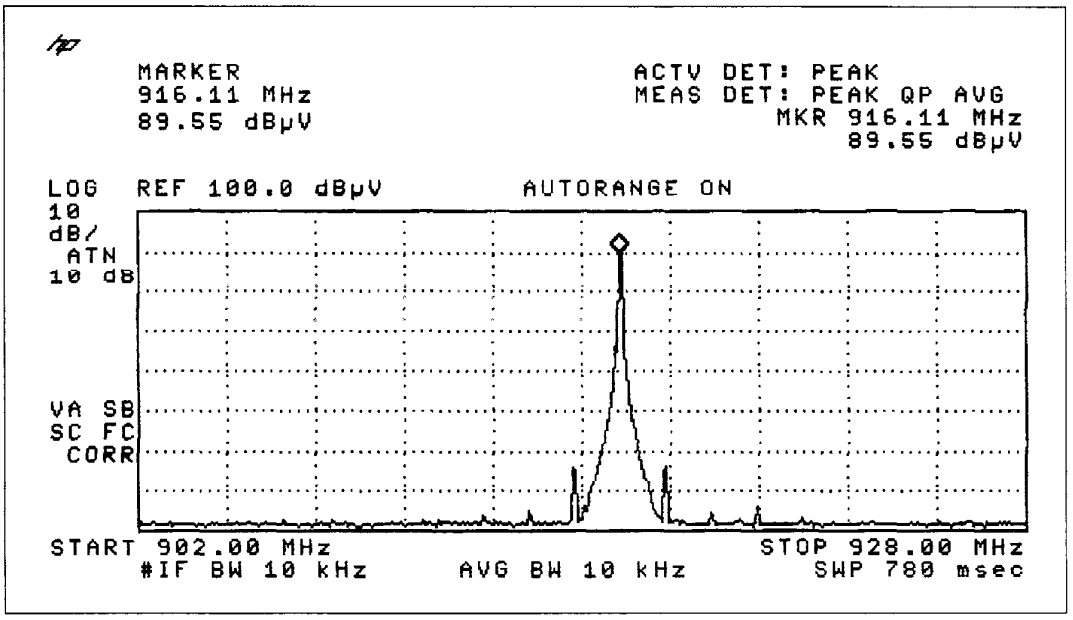
Results: KP4



Field Strength of Fundamental Emissions Quasi-Peak						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	Antenna Polarity
916.10	56.6	29.8	86.4	20893.0	50,000	Vertical

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Limited for Radiated Emissions [FCC 47 CFR 15.109 Class B]:

Frequency Range [MHz]	Quasi-Peak Limits [μV/m]
30-88	100
88-216	150
216-960	200
Above960	500

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

Results:

Radiated Emissions Quasi-Peak					
Emission Frequency MHz	Antenna Polarity	Level .@3m dBμV/m	Limit .@3m dBμV/m	Level @3m .@3m μV/m	Limit .@3m μV/m
NO EMISSION DETECTED WITHIN 20dB OF THE FCC LIMITS					

Calculated measurement uncertainty = 30MHz to 300MHz ±3.7dB
300MHz to 1GHz +3.0dB / -2.7dB

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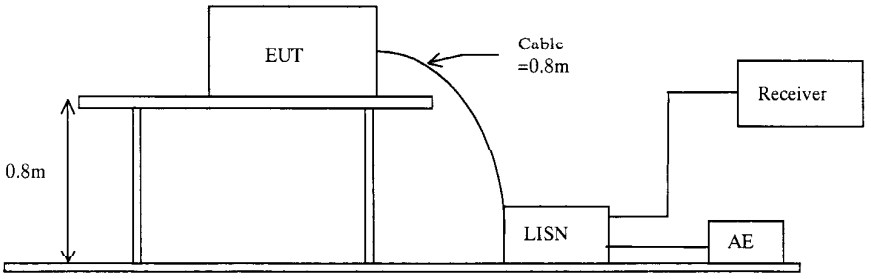
3.1.1 Conducted Emissions (0.15MHz to 30MHz)

Test Requirement:	FCC 47CFR 15.207
Test Method:	ANSI C63.4:2000
Test Date:	2003-06-02
Mode of Operation:	On mode

Test Method:

The test was performed in accordance with ANSI C63.4:2000, with the following: an initial measurement was performed in peak and average detection mode on the live line. Any emissions recorded within 30dB of the relevant limit line were re-measured using quasi-peak and average detection on the live and neutral lines with the worst case recorded in the table of results.

Test Setup:



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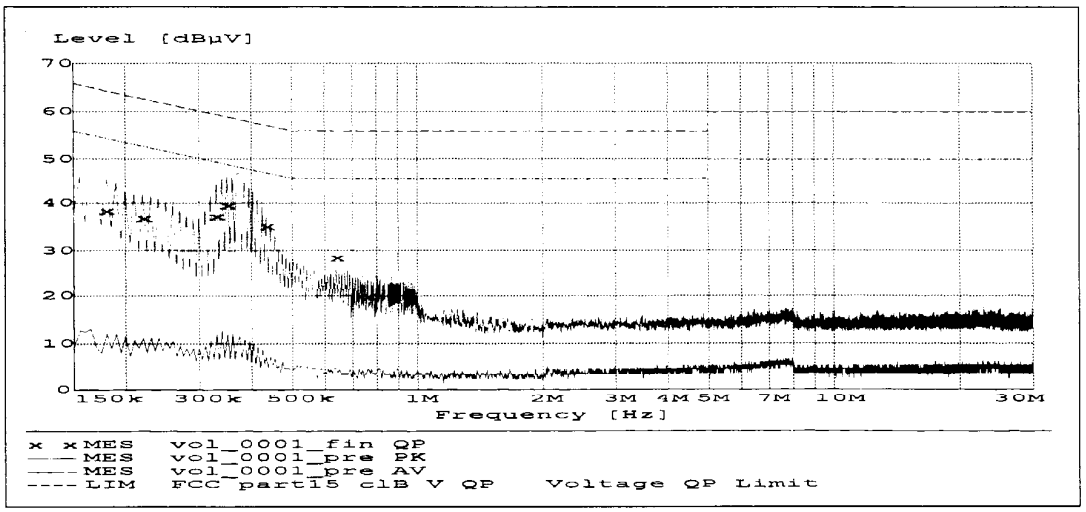
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dBμV]	Average [dBμV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram labelled as (QP and AV).

Results: On Mode (KP1) TX



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Results: On Mode (KP1) TX

Conductor Live or Neutral	Frequency MHz	Quasi-peak Level dBμV	Quasi-peak Limit dBμV	Average Level dBμV	Average Limit dBμV
Live	0.33	37.1	60.0	-*-	-*-
Neutral	0.180	38.3	65.0	-*-	-*-
Neutral	0.220	36.8	63.0	-*-	-*-
Neutral	0.350	39.5	59.0	-*-	-*-
Neutral	0.435	35.1	57.0	-*-	-*-
Neutral	0.640	28.5	56.0	-*-	-*-
Neutral	0.760	19.9	56.0	-*-	-*-

Remarks:

Calculated measurement uncertainty = ±2.3dB
-*- Emission greater than 30dB below limit line.

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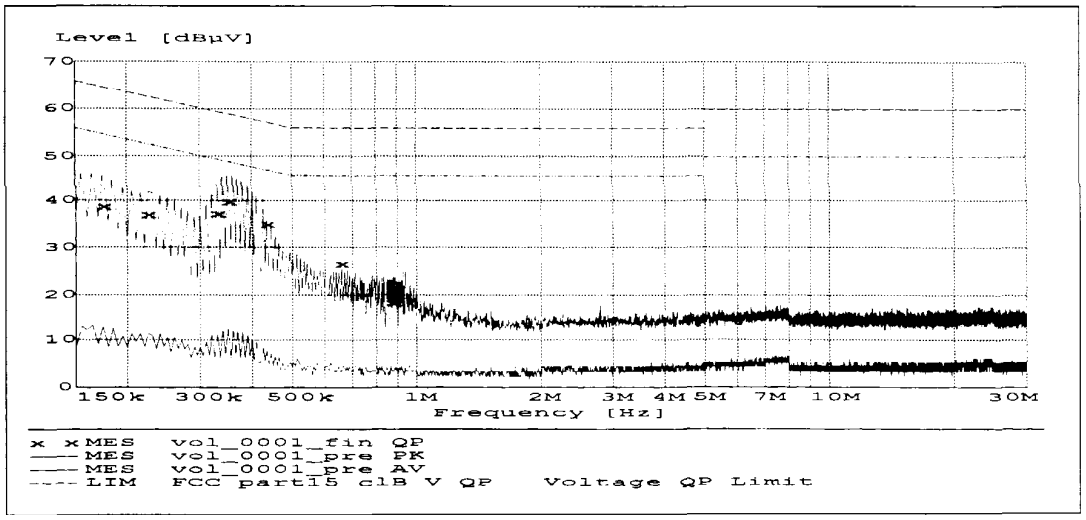
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dBμV]	Average [dBμV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram labelled as (QP and AV).

Results: On Mode (KP2) TX



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Results: On Mode (KP2) TX

Conductor Live or Neutral	Frequency MHz	Quasi-peak Level dBμV	Quasi-peak Limit dBμV	Average Level dBμV	Average Limit dBμV
Live	0.330	37.2	60.0	-*-	-*-
Neutral	0.175	38.7	65.0	-*-	-*-
Neutral	0.225	37.0	63.0	-*-	-*-
Neutral	0.350	39.7	59.0	-*-	-*-
Neutral	0.435	34.9	57.0	-*-	-*-
Neutral	0.660	26.6	56.0	-*-	-*-
Neutral	0.880	17.9	56.0	-*-	-*-

Remarks:

Calculated measurement uncertainty = ±2.3dB
-*- Emission greater than 30dB below limit line.

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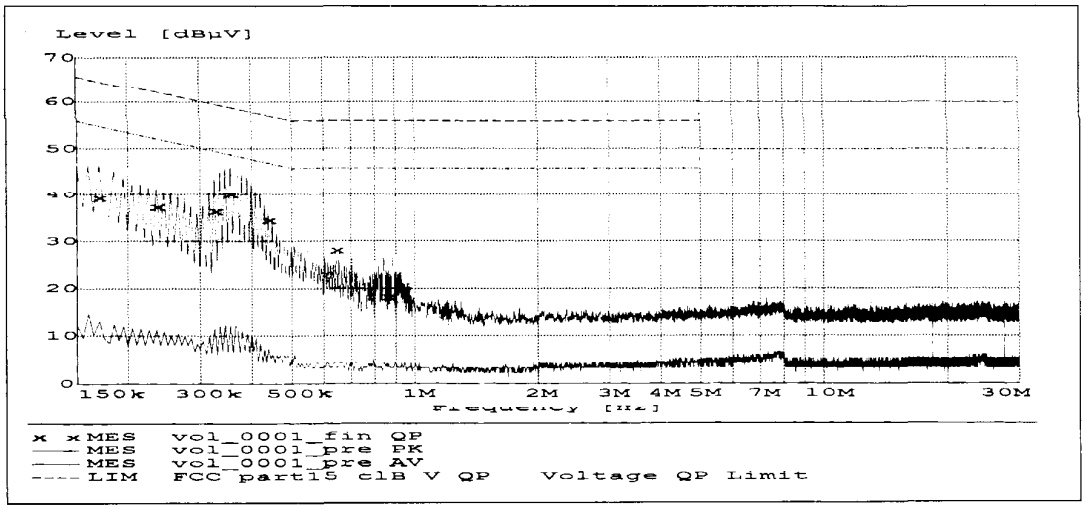
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dBμV]	Average [dBμV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram labelled as (QP and AV).

Results: On Mode (KP3) TX



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Results: On Mode (KP3) TX

Conductor Live or Neutral	Frequency MHz	Quasi-peak Level dBμV	Quasi-peak Limit dBμV	Average Level dBμV	Average Limit dBμV
Live	0.325	36.4	60.0	-*-	-*-
Neutral	0.170	39.2	65.0	-*-	-*-
Neutral	0.235	37.4	62.0	-*-	-*-
Neutral	0.355	40.1	59.0	-*-	-*-
Neutral	0.440	34.5	57.0	-*-	-*-
Neutral	0.645	28.1	56.0	-*-	-*-
Neutral	0.865	18.2	56.0	-*-	-*-

Remarks:

Calculated measurement uncertainty = ±2.3dB
-*- Emission greater than 30dB below limit line.

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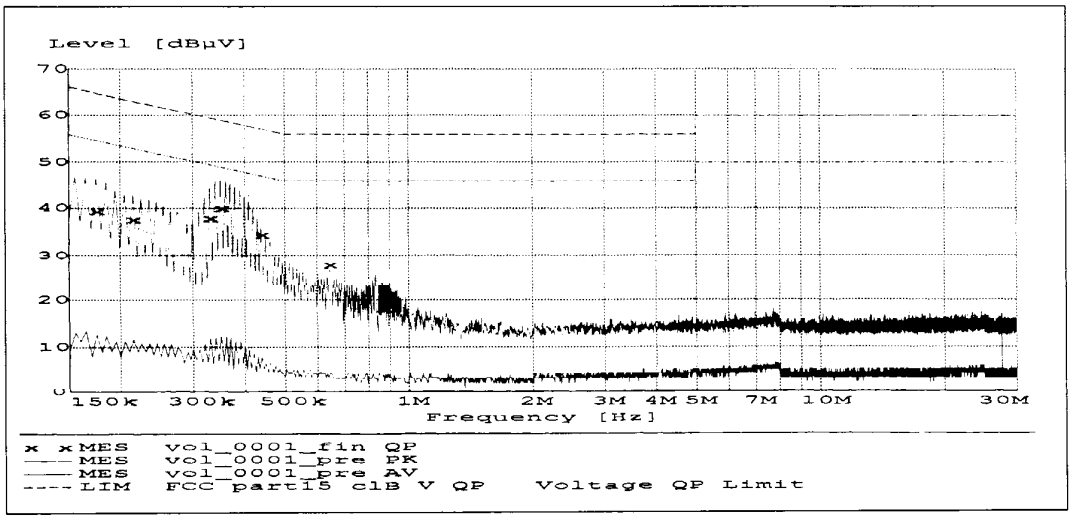
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dBμV]	Average [dBμV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram labelled as (QP and AV).

Results: On Mode (KP4) TX



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E-mail: hkstc@hkstc.com

Results: On Mode (KP4) TX

Conductor Live or Neutral	Frequency MHz	Quasi-peak Level dBμV	Quasi-peak Limit dBμV	Average Level dBμV	Average Limit dBμV
Live	0.330	37.7	60.0	-*-	-*-
Neutral	0.175	39.3	65.0	-*-	-*-
Neutral	0.215	37.6	63.0	-*-	-*-
Neutral	0.350	39.9	59.0	-*-	-*-
Neutral	0.440	34.4	57.0	-*-	-*-
Neutral	0.645	28.1	56.0	-*-	-*-
Neutral	0.870	18.1	56.0	-*-	-*-

Remarks:

Calculated measurement uncertainty = ±2.3dB
-*- Emission greater than 30dB below limit line.

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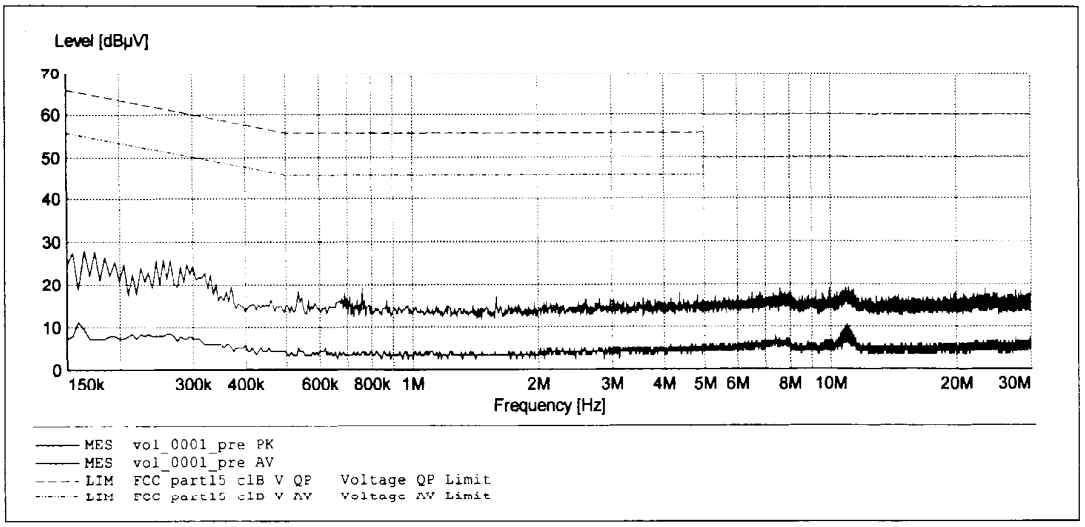
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dBμV]	Average [dBμV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram labelled as (QP and AV).

Results: RX Mode (Printer ID 1)



Conductor Live or Neutral	Frequency MHz	Quasi-peak Level dBμV	Quasi-peak Limit dBμV	Average Level dBμV	Average Limit dBμV
NO EMISSION DETECTED WITHIN 20dB OF THE FCC LIMITS					

Remarks:

Calculated measurement uncertainty = ±2.3dB
-*- Emission greater than 30dB below limit line.

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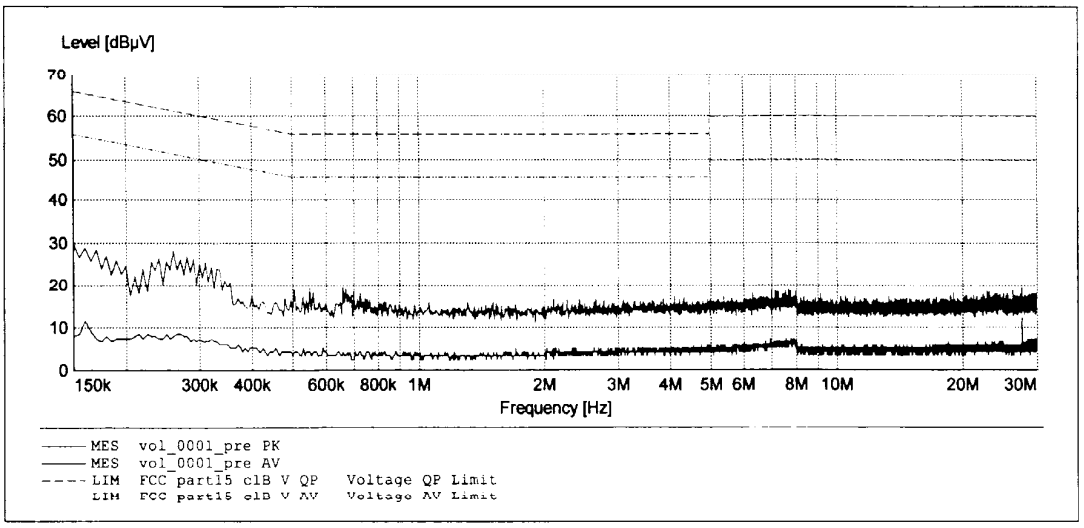
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dBμV]	Average [dBμV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram labelled as (QP and AV).

Results: RX Mode (Printer ID 2)



Conductor Live or Neutral	Frequency MHz	Quasi-peak Level dBμV	Quasi-peak Limit dBμV	Average Level dBμV	Average Limit dBμV
NO EMISSION DETECTED WITHIN 20dB OF THE FCC LIMITS					

Remarks:

Calculated measurement uncertainty = ±2.3dB
-*- Emission greater than 30dB below limit line.

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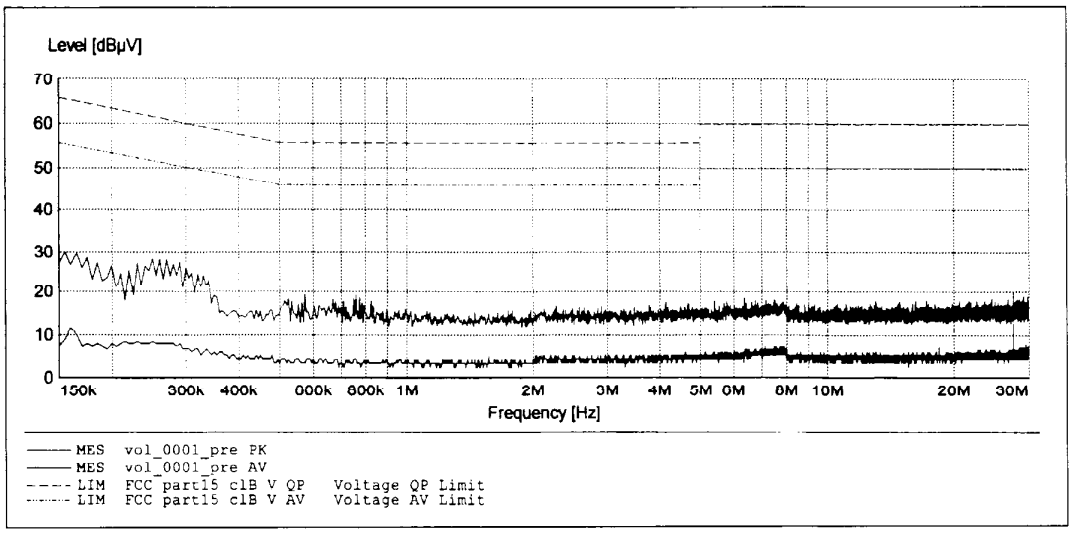
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dBμV]	Average [dBμV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram labelled as (QP and AV).

Results: RX Mode (Printer ID 3)



Conductor Live or Neutral	Frequency MHz	Quasi-peak Level dBμV	Quasi-peak Limit dBμV	Average Level dBμV	Average Limit dBμV
NO EMISSION DETECTED WITHIN 20dB OF THE FCC LIMITS					

Remarks:

Calculated measurement uncertainty = ±2.3dB
-*- Emission greater than 30dB below limit line.

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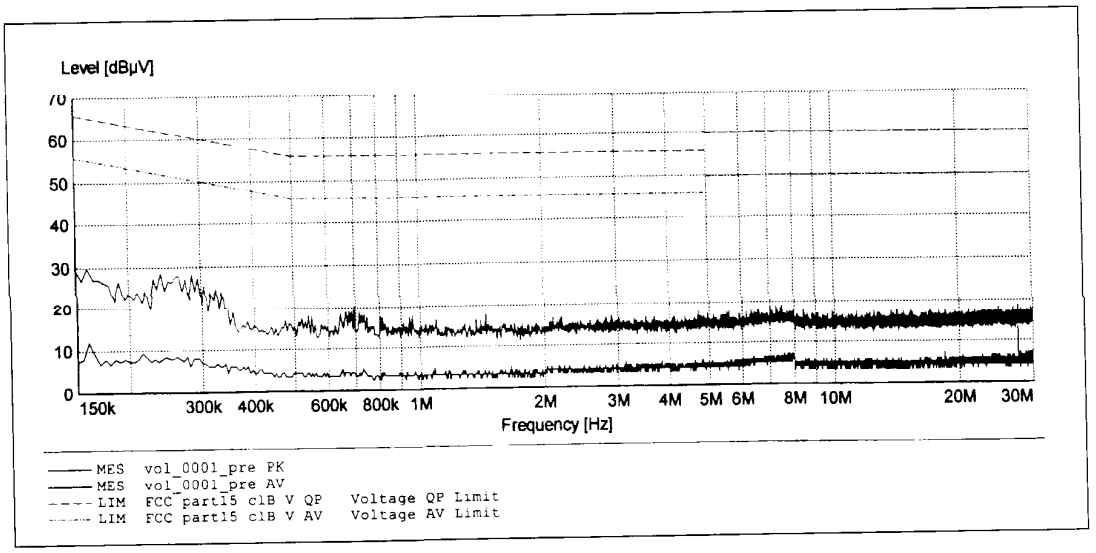
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dBμV]	Average [dBμV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram labelled as (QP and AV).

Results: RX Mode (Printer ID 4)



Conductor Live or Neutral	Frequency MHz	Quasi-peak		Average	
		Level dBμV	Limit dBμV	Level dBμV	Limit dBμV
NO EMISSION DETECTED WITHIN 20dB OF THE FCC LIMITS					

Remarks:

Calculated measurement uncertainty = ±2.3dB
-*- Emission greater than 30dB below limit line.

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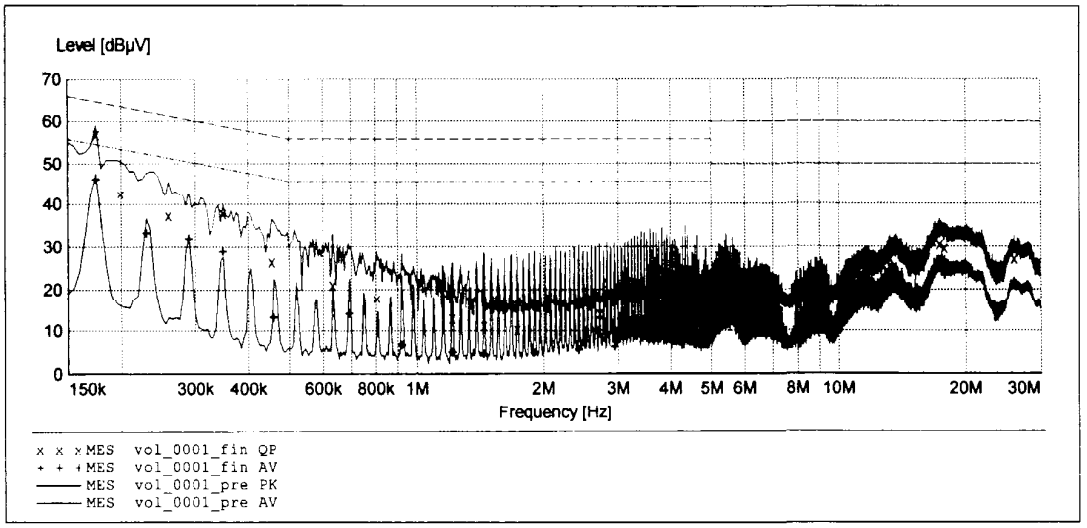
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dBμV]	Average [dBμV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram labelled as (QP and AV).

Results: PC On TX Mode



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Results: PC On TX Mode

Conductor Live or Neutral	Frequency MHz	Quasi-peak Level dBμV	Quasi-peak Limit dBμV	Average Level dBμV	Average Limit dBμV
Live	0.175	57.1	60.0	-*-	-*-
Live	0.200	42.7	60.0	-*-	-*-
Live	0.290	-*-	-*-	31.8	51.0
Live	0.350	-*-	-*-	28.8	49.0
Live	0.455	26.6	60.0	-*-	-*-
Live	2.720	14.0	60.0	-*-	-*-
Live	3.585	12.4	60.0	-*-	-*-
Live	5.440	-*-	-*-	14.9	50.0
Live	6.425	-*-	-*-	19.9	50.0
Live	8.800	-*-	-*-	11.3	50.0
Live	13.150	-*-	-*-	21.2	50.0
Live	13.265	27.3	60.0	-*-	-*-
Live	17.385	30.6	60.0	-*-	-*-
Live	17.560	-*-	-*-	24.7	50.0
Live	17.790	29.7	60.0	-*-	-*-
Live	17.850	-*-	-*-	23.4	50.0
Live	25.990	-*-	-*-	21.7	50.0
Live	26.000	27.2	60.0	-*-	-*-

To be continue...

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Results: PC On TX Mode

Conductor Live or Neutral	Frequency MHz	Quasi-peak Level dBμV	Quasi-peak Limit dBμV	Average Level dBμV	Average Limit dBμV
Neutral	0.175	-*-	-*-	46.4	55.0
Neutral	0.230	-*-	-*-	33.2	52.0
Neutral	0.260	37.4	61.0	-*-	-*-
Neutral	0.350	37.9	59.0	-*-	-*-
Neutral	0.460	-*-	-*-	13.0	47.0
Neutral	0.635	21.3	56.0	-*-	-*-
Neutral	0.695	-*-	-*-	13.9	46.0
Neutral	0.805	17.9	56.0	-*-	-*-
Neutral	0.925	-*-	-*-	6.7	46.0
Neutral	1.215	13.1	56.0	5.1	46.0
Neutral	1.445	11.3	56.0	4.7	46.0
Neutral	1.735	10.5	56.0	-*-	-*-
Neutral	1.910	-*-	-*-	4.9	46.0
Neutral	2.430	-*-	-*-	5.6	46.0
Neutral	2.950	-*-	-*-	6.4	46.0
Neutral	3.645	-*-	-*-	7.5	46.0
Neutral	4.340	11.7	56.0	-*-	-*-
Neutral	4.860	12.7	56.0	-*-	-*-

Remarks:

Calculated measurement uncertainty = ±2.3dB
-*- Emission greater than 30dB below limit line.

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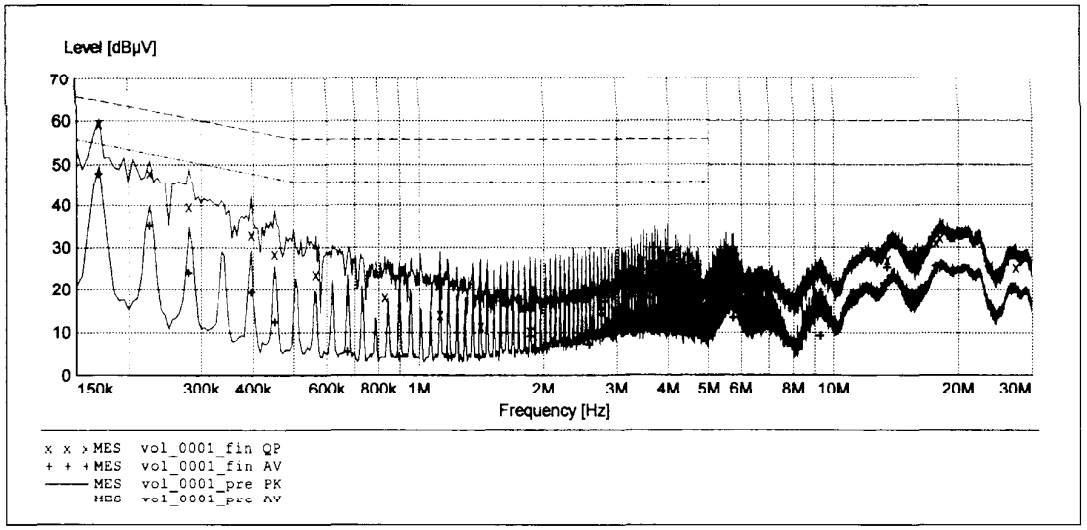
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dBμV]	Average [dBμV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram labelled as (QP and AV).

Results: PC On RX Mode



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Results: PC On RX Mode

Conductor Live or Neutral	Frequency MHz	Quasi-peak Level dBμV	Quasi-peak Limit dBμV	Average Level dBμV	Average Limit dBμV
Live	0.170	59.6	65.0	-*-	-*-
Live	0.280	39.8	61.0	-*-	-*-
Live	0.450	28.5	57.0	-*-	-*-
Live	1.180	-*-	-*-	4.3	46.0
Live	1.915	-*-	-*-	5.7	46.0
Live	2.590	-*-	-*-	7.2	46.0
Live	2.760	15.3	56.0	-*-	-*-
Live	4.730	25.2	56.0	-*-	-*-
Live	5.750	-*-	-*-	13.4	50.0
Live	6.710	-*-	-*-	10.4	50.0
Live	13.500	-*-	-*-	25.2	50.0
Live	17.640	31.2	60.0	-*-	-*-
Live	17.660	-*-	-*-	25.6	50.0
Live	18.065	32.2	60.0	-*-	-*-
Live	18.140	-*-	-*-	26.2	50.0
Live	27.005	-*-	-*-	20.8	50.0
Live	27.500	25.4	60.0	-*-	-*-

To be continue...

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Results: PC On RX Mode

Conductor Live or Neutral	Frequency MHz	Quasi-peak Level dBμV	Quasi-peak Limit dBμV	Average Level dBμV	Average Limit dBμV
Neutral	0.170	-*-	-*-	47.9	55
Neutral	0.225	48.1	63.0	35.0	53.0
Neutral	0.280	-*-	-*-	24.0	51.0
Neutral	0.395	33.0	58.0	19.4	48.0
Neutral	0.450	-*-	-*-	12.4	47.0
Neutral	0.565	23.7	56.0	-*-	-*-
Neutral	0.675	-*-	-*-	5.6	46.0
Neutral	0.830	18.4	56.0	-*-	-*-
Neutral	0.900	-*-	-*-	4.5	46.0
Neutral	1.125	14.3	56.0	-*-	-*-
Neutral	1.405	-*-	-*-	4.3	46.0
Neutral	1.410	11.7	56.0	-*-	-*-
Neutral	1.855	10.5	56.0	-*-	-*-
Neutral	2.815	-*-	-*-	17.2	46.0
Neutral	3.490	18.8	56.0	-*-	-*-
Neutral	3.605	-*-	-*-	15.2	46.0
Neutral	4.000	29.5	56.0	-*-	-*-
Neutral	9.310	-*-	-*-	9.2	50.0
Neutral	13.490	27.2	60.0	-*-	-*-

Remarks:

Calculated measurement uncertainty = ±2.3dB
-*- Emission greater than 30dB below limit line.

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Appendix A

Test Equipment Audit

Radiated Emission

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EM007	SPECTRUM ANALYZER	HEWLETT PACKARD	HP85660B	3144A21192	14/03/03
EM008	SPECTRUM ANALYZER DISPLAY	HEWLETT PACKARD	HP85662A	3144A20514	14/03/03
EM009	QUASI PEAK ADAPTOR	HEWLETT PACKARD	HP85650A	3303A01702	14/03/03
EM010	RF PRESELECTOR	HEWLETT PACKARD	HP85685A	3221A01410	14/03/03
EM011	ATTENNUATOR/SWITCH	HEWLETT PACKARD	HP11713A	2508A10595	14/03/03
EM012	PRE-AMPLIFIER	HEWLETT PACKARD	HP8449B	3008A00262	14/03/03
EM013	CONTROLLER (COMPUTER), COLOR MONITOR, KEYBOARD & MOUSE FLOPPY DRIVE	HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD	HP9000 HP A1097C HP9133L	6226A60314 3151J39517 2623A02468	CM
EM020	HORN ANTENNA	EMCO	3115	4032	19/07/00
EM022	LOOP ANTENNA	EMCO	6502	1189-2424	04/08/00
EM072	SIGNAL GENERATOR	HEWLETT PACKARD	8640B	1948A11892	N/A
EM083	HKSTC OPEN AREA TEST SITE	HKSTC	N/A	N/A	08/11/02
EM131	PORTABLE SPECTRUM ANALYSER	HEWLETT PACKARD	8595EM	3710A00155	18/12/01
EM145	EMI TEST RECEIVER	R & S	ESCS 30	830245/021	22/07/02
EM194	BICONILOG ANTENNA	EMCO	3142B	1795	14/05/02
EM195	ANTENNA POSITIONING MAST	EMCO	2075	2368	N/A
EM196	MULTI-DEVICE CONTROLLER	EMCO	2090	1662	N/A

Conducted Emission

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EM078	VARIAC	SHANGHAI VOLTAGE	TDGC-3/0.5	N/A	CM
EM081	SMALL SCREENED ROOM	MIKO INST HK	N/A	N/A	18/10/02
EM119	LISN	R & S	ESH3-Z5	0831.5518.52	01/10/02
EM127	ISOLATION TRANSFORMER 220 TO 300	WING SUN	N/A	N/A	CM
EM142	PULES LIMITER	R & S	ESH3Z2	357.8810.52	03/07/02
EM181	EMI TEST RECEIVER	R & S	ESIB7	100072	28/11/01
EM154	SHIELDING ROOM	SIEMENA MATSUSHITA COMPONENTS	N/A	803-740-057-99A	18/10/02
EM197	LISN	EMCO	4825/2	1193	08/04/03

Remarks:

CM Corrective Maintenance
N/A Not Applicable or Not Available
TBD To Be Determined

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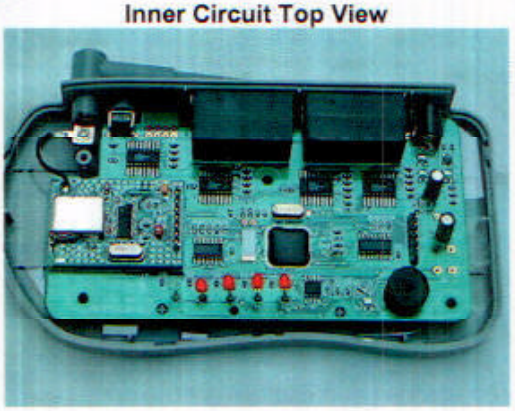
Appendix B

Photographs of EUT

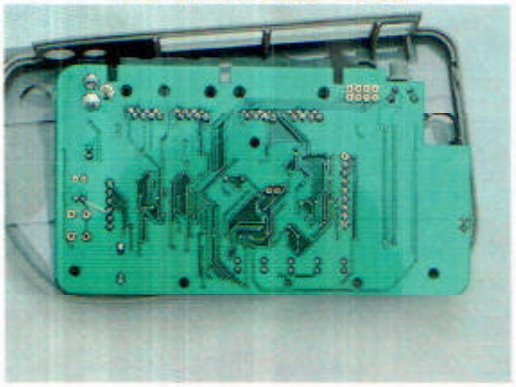
Front View of the product

Rear View of the product

Inner Circuit Top View



Inner Circuit Bottom View



Conditions of Issuance of Test Reports
1. All services and goods are accepted by The Hong Kong Standards & Testing Centre Ltd (the "Company") solely for testing and report in accordance with the following terms and conditions. The Company provides its services on the basis that such terms and conditions constitute an express agreement between the Company and any person, firm or company requesting its services (the "Clients"). 2. Any report issued by the Company as a result of this application for testing services (the "Report") shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorised purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show it, or a certified copy thereof prepared by the Company, to his customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders. 3. The Company shall not be called or be liable to be called to give evidence in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders. Reports issued by the Company to any independent body shall not bind the Company to support, or prevent the Company from opposing, the Clients submitting the samples, unless the names of supplier and maker are disclosed prior to the issuance of the Report. The Company reserves the right to refuse to take part in any legal action against the Clients. 4. The Report relates only to the sample tested and does not apply to the bulk, unless the sampling has been carried out by the Company and is stated as such in the Report. 5. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it and to adopt any other contractual remedies which may be appropriate. 6. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company. 7. The Company will not be liable for or accept responsibility for any loss or damage howsoever arising from the use of information contained in any of its Reports or in any communication whatsoever about, to said tests or investigations. 8. Applicants wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing. 9. The Company will take reasonable care of samples submitted for testing on, in the Company's possession. However, no liability is accepted for loss or damage howsoever caused, to goods and/or samples which is the possession or under the control of the Company. Non-return of samples submitted for the purpose of testing is inevitable. The Company will return, on the Clients written request, any whole remains or the samples after testing. The Clients agree that any samples, if retained by the Company may be disposed after one month, unless the Company has specifically instructed otherwise. 10. Samples which any in the Company's reasonable opinion not small to afford an adequate examination or test to be made, may nevertheless, subject to the Company's entire discretion, be accepted for test but the relevant report may be accordingly qualified.

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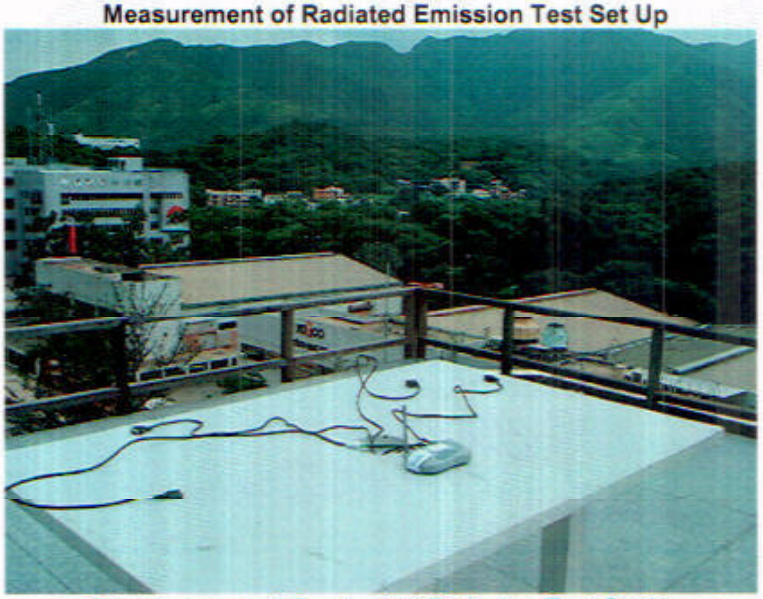
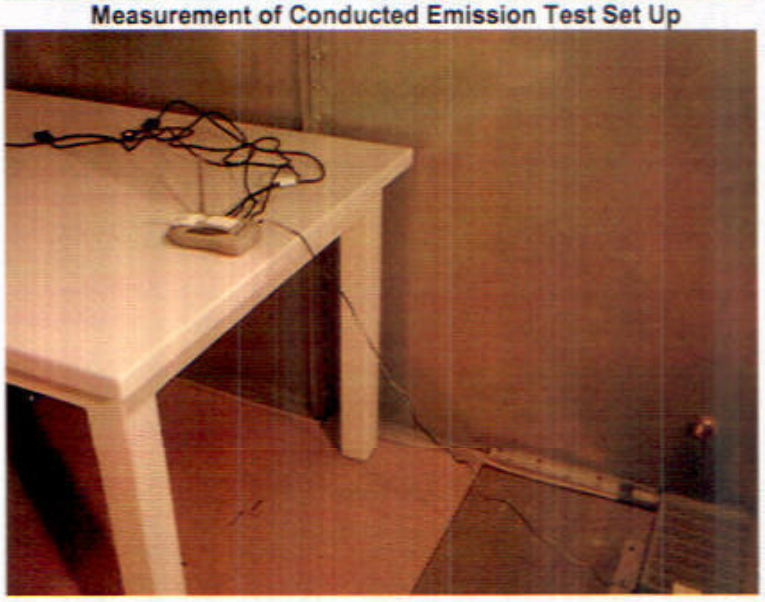
Photographs of EUT

Measurement of Radiated Emission Test Set Up



Measurement of Conducted Emission Test Set Up



End of Document

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