



ELECTRONICS REGIONAL TEST LABORATORY (NORTH)

TEST REPORT



TEST REPORT No.	DATE	PAGE NO.
ERTL (N) /90 (4)-2K6/C0044	05/05/2006	1 OF 5
Service Request No.0044		Date : 20/04/2006
Name & Address of the Client		M/S Asian Electronics Limited 68, M.I.D.C. Satpur, Nasik -422007 Maharashtra (India)
Description/ Identification of the Item: -		
Nomenclature		Handheld Trans-receiver
Model No./Type No.		ACD5BD WPN9
Value/Tolerance		-
Serial No.(s)		01
No. of Samples		01
Trade Mark/Make		ASIAN ELECTRONICS/WESTINGHOUSE
Year of Manufacture		2006
Applicable Standard Specification IS/IEC/JSS/other		FCC PART 15C Test Method: ANSI C63.4-1992
Manufacturer's Name & address		M/S Asian Electronics Limited 68, M.I.D.C. Satpur, Nasik -422007 Maharashtra (India)
Name & address where testing carried out (Subcontracting/Single Window/On-Site/ Using Customer Facilities)		ERTL(N), New Delhi
Test Method/Operating Procedure		ANSI C63.4-92
Condition of item on its receipt		Good
Date of receipt of item		20/04/2006
Date of Completion of Testing		08/05/2006

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TEST REPORT NUMBER	DATE	PAGE NO.
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Equipment used:

Sl.No.	Nomenclature	Make	Model No
1.	Receiver	R&S	ESIB26
2.	Antenna Mast	EMCO	1050
3.	Turntable	EMCO	1050
4.	Bi-conical Antenna	EMCO	3146
5.	Antenna log periodic	EMCO	3104
6.	Spectrum Analyzer	HP	HP8566B
7.	Pre-selector	HP	HP85685A
8.	Quasi Peak Adaptor	HP	HP85-650A
9.	Controller	HP	HP9000 Series

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TEST CONFIGURATION DETAIL:

Sl. No.	Equipment Description	Model No.	Make	Cable Description
1.	Handheld Receiver	ACD5BDWPN9	Asian	Unshielded, along with Electronics ballast fitted in the metal structure

Test Facility:

3 meter open area test site & conducted emission measurement facility located at Electronics Regional Test Laboratory(North), Ministry of Communication & Information Technology, Deptt. of Information tech. Govt. of India, S - Block, Okhla Indl. Area, Phase - II, New Delhi - 110 020, Listed by FCC(USA) vide letter registration no. 90618 dtd. 15th Jan 2004.

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TEST REPORT NUMBER	DATE	PAGE NO.
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Test Results:

S.No.	Parameter	Cl. No.	Nominal Value/ requirement			Measured Value/ Observation	Remarks										
1.	Radiated Emission Test Class B (Consumer product) (as per FCC Part 15) Under normal working Condition Test Method: ANSI C63.4- 92 Measurement Distance: 3 m	15.209	<table border="1"><tr><td>Freq In MHz.</td><td>Emission Limit dBuV/m (Q.P)</td></tr><tr><td>30-88</td><td>40</td></tr><tr><td>88-216</td><td>43.5</td></tr><tr><td>216-960</td><td>46</td></tr><tr><td>Above 960</td><td>50</td></tr></table>			Freq In MHz.	Emission Limit dBuV/m (Q.P)	30-88	40	88-216	43.5	216-960	46	Above 960	50	Satisfactory Refer Annexure: B	---
Freq In MHz.	Emission Limit dBuV/m (Q.P)																
30-88	40																
88-216	43.5																
216-960	46																
Above 960	50																
2.	Radiated Emission (Fundamental /Harmonics) Measurement distance: 3m EUT Under normal working condition EUT: Fundamental Freq: 433.9 MHz	15.231	Fundamental Freq in MHz	Field Strength of Fundamental (uV/m)	Field Strength of spurious emissions uV/m	Satisfactory Refer Annex "B"	-										
3.	Activation Time of the Manually operated Transmitter	15.231	Shall be less than 5 sec			4.2 sec	Satisfactory										

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Remarks:

- a) This report pertains to the parameters mentioned in the test results column.
- b) Uncertainty in measurement has been taken into Consideration while declaring the results of the parameters mentioned in the report.
- c) Conversion Formula & sample calculations are enclosed at Annexure - C.

Approved By
(Authorised Signatory)

Name: Sulekh Chand

Designation: Scientist "D"

M. Chand
Issued by (MATHAVIR PRASAD)
Scientist 'C'

ANNEXURE-B
 Test Report No
 ERTL(N)90(4)- 2K6/C0044
 DATED :08/05/2006

Radiated Emission
 Measurement Distance: 3m

S1 No	Freq. in MHz	Pol	Emission Observed dBuV/m	Limit in dB/uV	Variation In dB	Remarks
1	31.8	V	34.5	40	-5.5	Satisfactory
2	33.6	H	36.3	40	-3.7	
3	34.5	V	33.5	40	-6.5	
4	54.0	V	36.0	40	-4.0	
5	57.6	H	30.1	40	-9.9	
6	60.3	V	34.2	40	-5.8	
7	63.6	V	31.0	40	-9.0	
8	65.6	H	27.8	40	-12.2	
9	67.0	V	36.9	40	-3.1	
10	69.9	V	34.7	40	-5.3	
11	73.1	H	32.1	40	-7.9	
12	75.7	H	36.8	40	-3.2	
13	76.8	H	37.7	40	-2.3	
14	79.4	V	38.4	40	-1.6	
15	80.1	H	39.8	40	-0.2	
16	81.1	H	38.4	40	-1.6	
17	84.0	H	36.7	40	-3.3	
18	100.8	H	36.9	43.5	-6.6	
19	121.1	H	31.2	43.5	-12.3	

Emission Of Fundamental Freq & Spurious emission

Frequency	Polarization	Emission in dBuV/m	Remarks
Fundamental (433.9 MHz)	V	78.89	Satisfactory
Harmonics & spurious	V	58.63	

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ANNEXURE - C
Test Report No
ERTL(N)90(4)-2K6/C0044
DATED : 08/05/2006

Conversion Formulas :

A) Field strength : Emission observed in dBuV+Antenna factor
(dBuV/m) (dB/m) + Cable loss (dB)

B) Field strength : Antilog (Field strength in dBuV/m)
(uV/m) : -----
20

C) Interference : Antilog (Interference observed in dBuV)
(uV) -----
20

Sample Calculation :

Field strength in dBuV/m = Emission observed (dBuV)
+ Antenna factor (dB/m)
+ Cable loss (dB)

Example : Emission observed = 18dBuV at 35 MHz
Antenna factor = 10dB/m
Cable loss = 2dB

Field strength (dBuV/m) : 18 dBuV + 10dB/m + 2 dB = 30dBuV/m

Field strength uV/m : Antilog (field strength in (dBuV/m))

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TEST REPORT No.	DATE	PAGE NO.
ERTL (N)/90(4)-2K6/C0072	08/05/2006	1 OF 4
Service Request No.0067		Date: 26/04/2006
Name & Address of the Client		M/S Asian Electronics Limited 68, M.I.D.C. Satpur, Nasik -422007 Maharashtra (India)
Description/ Identification of the Item:-		
Nomenclature		Handheld Trans-receiver
Model No./Type No.		ACD5BD WPN9
Value/Tolerance		-
Serial No.(s)		01
No. of Samples		01
Trade Mark/Make		ASIAN ELECTRONICS/WESTINGHOUSE
Year of Manufacture		2006
Applicable Standard Specification IS/IEC/JSS/other		FCC PART 15C Test Method: ANSI C63.4-1992
Manufacturer's Name & address		M/S Asian Electronics Limited 68, M.I.D.C. Satpur, Nasik -422007 Maharashtra (India)
Name & address where testing carried out (Subcontracting/Single Window/On-Site/ Using Customer Facilities)		ERTL (N), New Delhi
Test Method/Operating Procedure		FCC Part 15
Condition of item on its receipt		Good
Date of receipt of item		26/04/2006
Date of Completion of Testing		05/05/2006

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EQUIPMENT USED :

Sr No	Nomenclature	Make	Model No
1.	Antenna Mast	EMCO	1050
2.	Antenna log periodic	EMCO	3104
3.	Spectrum Analyzer	HP	HP8566B

TEST CONFIGURATION DETAIL:

Sr No	Equipment Description	Make	Model No.	Cable Description
1	Handheld Receiver	Asian	ACD5BD WPN9	Unshielded, along with electronic ballast fitted in the metal structure.

Test Facility:

3-meter open area test site & conducted emission measurement facility located at Electronics Regional Test Laboratory (North), Ministry of Communication & Information Technology, Deptt. of Information tech. Govt. of India, S - Block, Okhla Indl. Area, Phase - II, New Delhi - 110 020, Listed by FCC(USA) vide letter registration no. 90618 dtd. 15th Jan 2004.

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ERTL (N) /90 (4) -2K6/C0072 08/05/2006 3 OF 4

Test Results:

S.No.	Parameter	Cl. No.	Nominal Value/ requirement	Measured Value/ Observation	Remarks
1.	Band width test Under normal working condition Transmitting mode	15.215	The permitted emission bandwidth is no wider than 0.25% of the operating frequency (433.9 MHz)	311 KHz (For detail refer Annex A)	Satisfactory

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Remarks: a) This report pertains to the parameters mentioned in the test results column.
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Approved By
(Authorised Signatory)

Name: Sulekh Chand

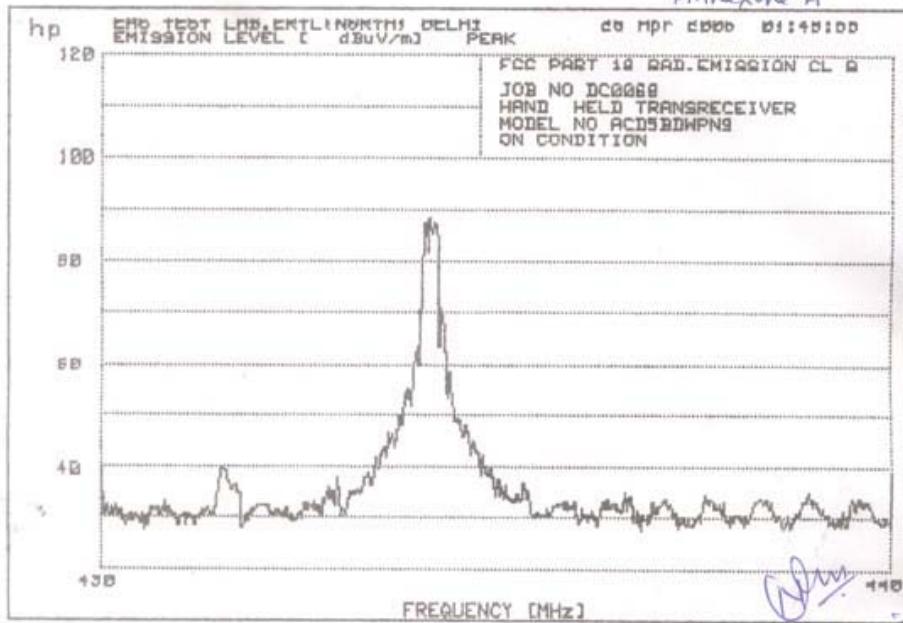
Designation: Scientist "D"

Mukundan

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Electronics Regional Test Laboratory
(NORTH)
Bharti
47701
Date: 08/05/2006

Annexure 'A'



operating frequency - 433.9 (MHz).

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(NORTH)
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TEST REPORT No.	DATE	PAGE NO.
ERTL (N) /90 (4) -2K6/C0068	08/05/2006	1 OF 4
Service Request No.0063		Date : 26/04/2006
Name & Address of the Client		M/S Asian Electronics Limited 68,M.I.D.C. Satpur, Nasik -422007 Maharashtra (India)
Description/ Identification of the Item:-		
Nomenclature		Handheld Trans-receiver
Model No./Type No.		ACD5BDWPN9
Value/Tolerance		-
Serial No.(s)		01
No. of Samples		01
Trade Mark/Make		ASIAN ELECTRONICS/WESTINGHOUSE
Year of Manufacture		2006
Applicable Standard Specification IS/IEC/JSS/other		FCC PART 15C Test Method: ANSI C63.4-1992
Manufacturer's Name & address		M/S Asian Electronics Limited 68,M.I.D.C. Satpur, Nasik -422007 Maharashtra (India)
Name & address where testing carried out (Subcontracting/Single Window/On-Site/ Using Customer Facilities)		ERTL(N), New Delhi
Test Method/Operating Procedure		ANSI C63.4-92
Condition of item on its receipt		Good
Date of receipt of item		26/04/2006
Date of Completion of Testing		05/05/2006

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EQUIPMENT USED:

Sl. No.	Nomenclature	Make	Model No
1.	Spectrum Analyzer	HP	HP8566B
2.	Pre-selector	HP	HP85685A
3.	Quasi Peak Adaptor	HP	HP85-650A
4.	LISN	ESH3-Z6	R&S

TEST CONFIGURATION DETAIL:

Sl. No.	Equipment Description	Model No.	Make	Cable Description
1.	Handheld Receiver	ACD5BDWPN9	Asian	Unshielded, along with electronics ballast fitted in the metal fixture

Test Facility:

3 meter open area test site & conducted emission measurement facility located at Electronics Regional Test Laboratory(North), Ministry of Communication & Information Technology, Deptt. of Information tech. Govt. of India, S - Block, Okhla Indl. Area, Phase - II, New Delhi - 110 020, Listed by FCC(USA) vide letter registration no. 90618 dtd. 15th Jan 2004.

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TEST REPORT NUMBER DATE PAGE NO.
ERTL (N) / 90 (4) - 2K6 / C0068 08/05/2006 3 OF 4

Test Results:

S.No.	Parameter	Cl. No	Nominal Value/ requirement			Measured Value/ Observation	Remarks
1.	Conducted Emission Test Class B (Consumer product) (As FCC PART 15) EUT: Under normal working condition . Test Method: ANSI C63.4-92	15.107	Emission limit			Incompliance Refer Annexure A1-A3	Satisfactory
			Emission limit				
			Freq (MHz)			QP dB μ V Avg dB μ V	
			0.15-0.50	66-56	56-46		
			0.50-5	56	46		
			5-30	60	50		

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ERTL (N) /90(4)-2K6/C0068	08/05/2006	4 OF 4

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Approved By
(Authorised Signatory)

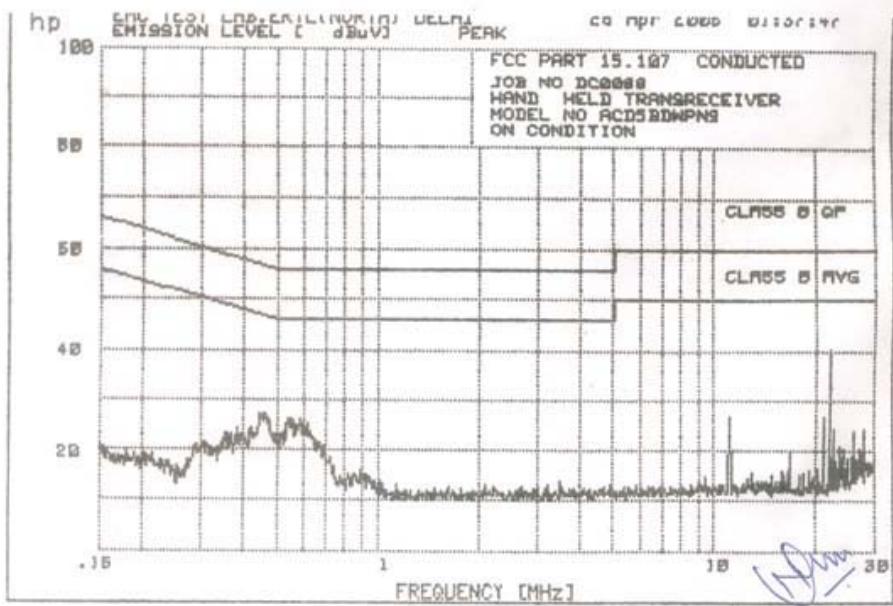


Name: Sulekh Chand

Designation: Scientist "D"

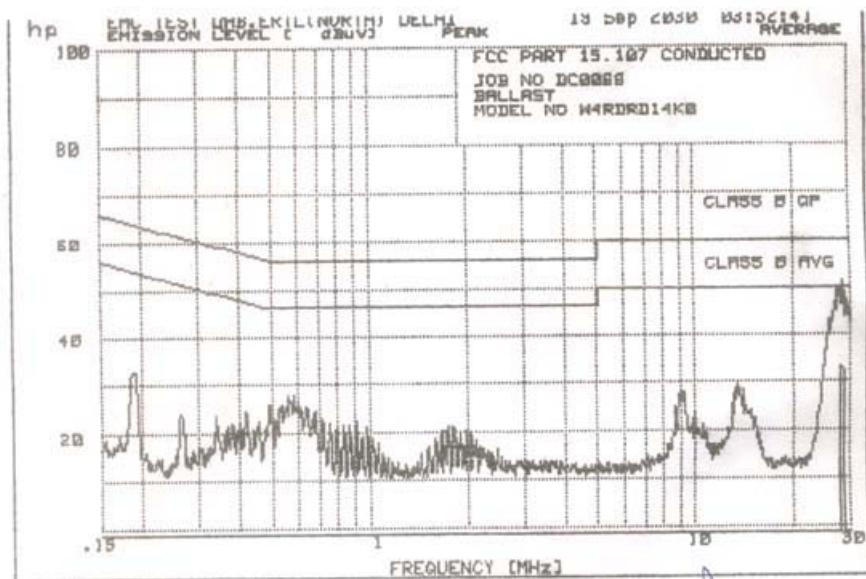
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Annex A2

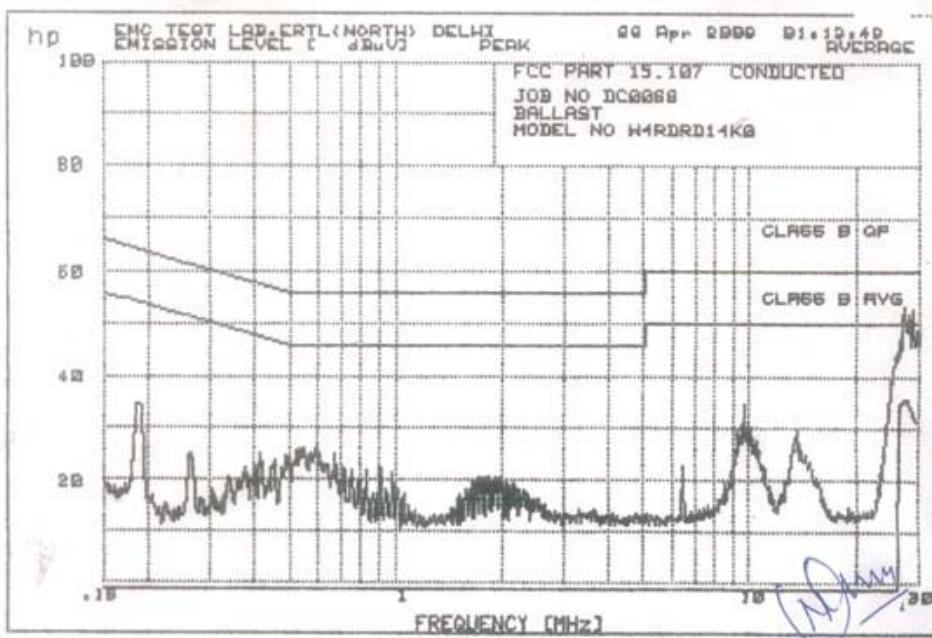


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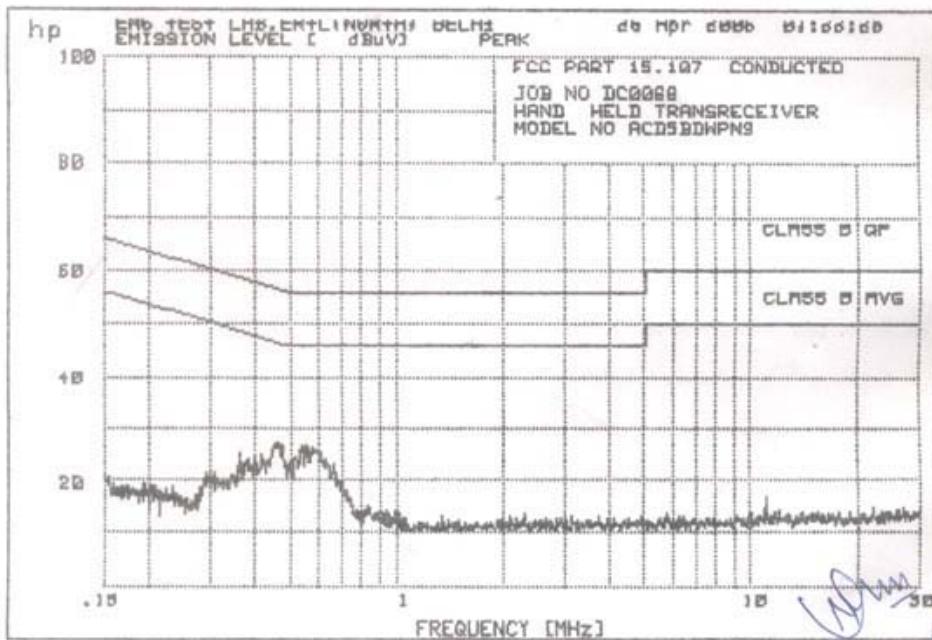
Annex A



Mahavir Singh



Annex



John
Malaviprasad