ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
UNINTENTIONAL RADIATOR CERTIFICATION TO
FCC PART 15 SUBPART B REQUIREMENT

OF

USB MICROPHONE

MODEL No.:UB1

BRAND NAME: SAMSON

FCC ID: V4ZUB1

REPORT NO.: SHEE080303934001-1

ISSUE DATE: Mar,7, 2008

Prepared for

Superlux Enterprise Development(Shanghai)Co.,LTD
No.88 Zhu-Ying Rd,Qing-Pu dist.Shanghai China
TEL: 86-021-69223752
FAX: 86-021-69223752

Prepared by

CENTRE TESTING INTERNATIONAL
1F., BUILDING C,HONGWEI INDUSTRIAL ZONE,
BAOAN 70 DISTRICT, SHENZHEN, CHINA
TEL: 86-755-3368 3668
FAX: 86-755-3368 3385

VERIFICATION OF COMPLIANCE

Applicant:	Superlux Enterprise Development(Shanghai)CO.,LTD No.88 Zhu-Ying Rd. Qing-Pu dist. Shanghai China
Product Name:	USB Microphone
Brand Name:	SAMSON
Model Number:	UB1
Serial Number:	N/A
File Number:	SHEE080303934001-1
Date of Test:	Mar. 3,2008 ~ Mar. 7 , 2008

We hereby certify that:

The above equipment was tested by Centre Testing International (CTI), The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15B

The test results of this report relate only to the tested sample identified in this report.

Prepared by : Forrest Lei

Inspected by : Daisy Wu

Approved by: Jacky Guo
General Manager

Date : Mar. 7, 2008

CENTRE TESTING INTERNATIONAL CTI 6

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1 product description

Product name:USB Microphone
Model : UB1
Trade:SAMSON
Power supply:USB(DC5V)

1.2 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters.

1.3 Test Facility

The 3m Semi-Anechoic chamber test site and conducted measurement facility used to collect the radiated data is located on the address:

1F.,Building C, Hongwei Industrial Zone 70District.,Baoan,Shenzhen,Guangdong,China .

The Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003 requirements. The test site Registration Number:614926

1.4 Special Accessories

Not available for this EUT intended for grant.

1.5 Equipment Modifications

Not available for this EUT intended for grant.

2. System Test Configuration

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a normal application.

2.2 EUT Exercise

The EUT was operated in the full load operating mode.

2.3 Test Procedure

2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4-2003.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode.

2.3.2 Radiated Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4-2003.

2.3.3 EUT operation condition

a) Set EUT in audio amplifier and Micphone mode

2.4 Limitation

(1) Conducted Emission

According to section 15.107(a) Conducted Emission Limits is as following.

Frequency range	Limits dB(uV)	
MHz	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Note 1.The lower limit shall apply at the transition frequencies 2.The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

(2) Radiated Emission

According to section 15.109 (a)Radiated emission Limits is as following

Frequency (MHz)	Field strength μV/m	Distance(m)	Field strength at 3m dBμV/m
30-88	100	3	40
88-216	150	3	43.5
216-960	200	3	46
Above 960	500	3	54

Remark: 1. Emission level in dBuV/m=20 log (uV/m)
2. Measurement was performed at an antenna to the closed point of EUT distance of 3 meters.

3. Summary Of Test Results

FCC Rules	Description Of Test	Result
§ 15.107	Conducted Emission	Compliant
§ 15.109	Radiated Emission	Compliant

4. Description of test modes

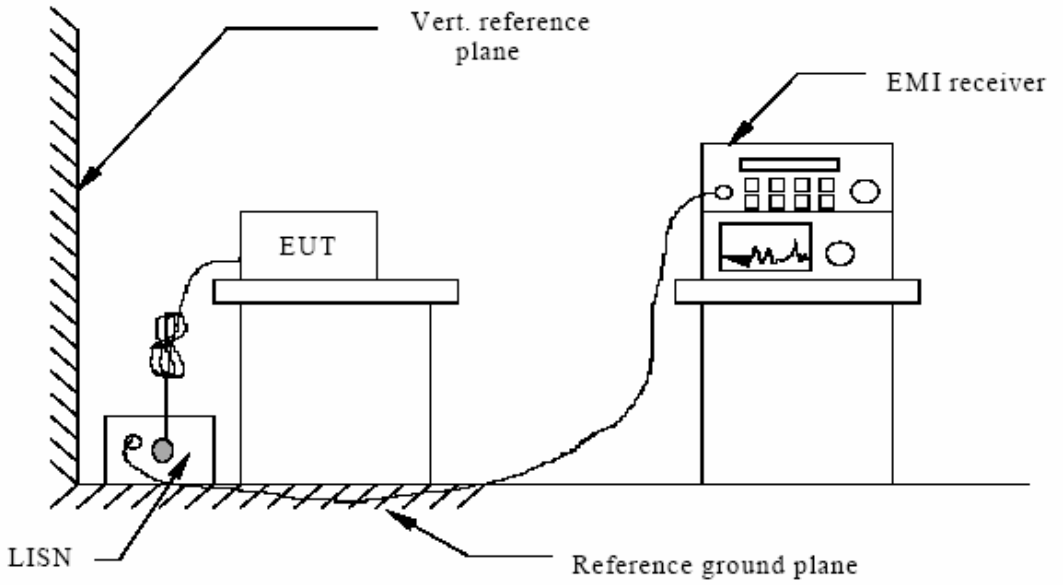
1. The EUT has been tested under full load operating condition.

5. Conducted Emissions Test

5.1 Measurement Procedure:

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

5.2 Test SET-UP (Block Diagram of Configuration)



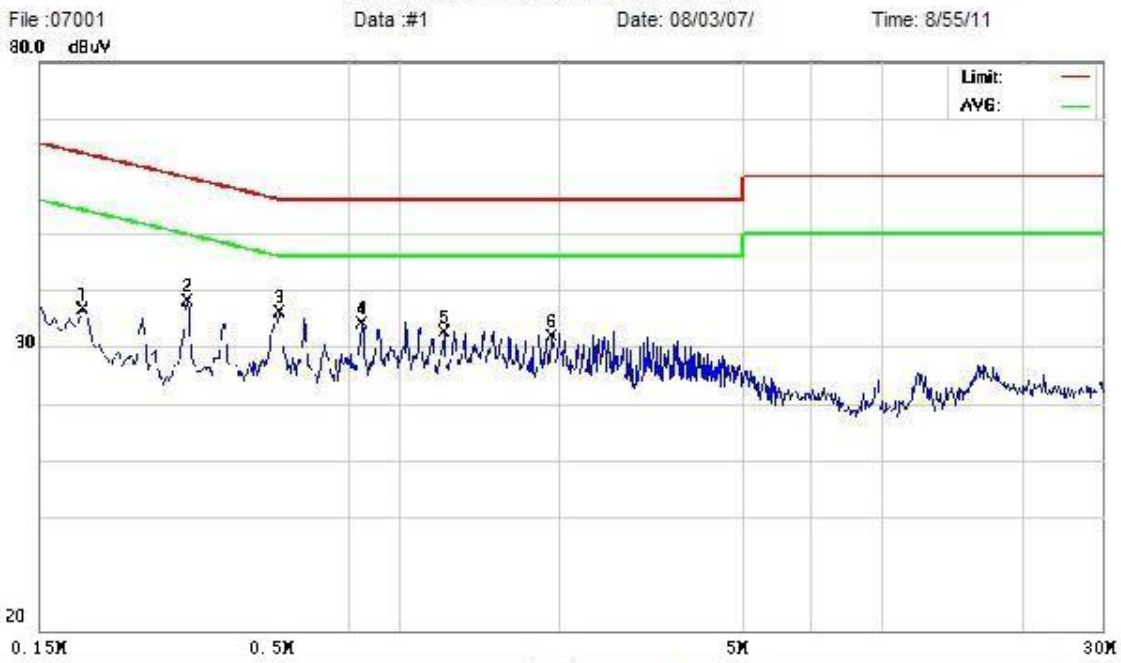
5.3 Measurement Equipment Used:

Conducted Emission Test Site # 4					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMI Receiver	R&S	ESCI	100435	01/29/2008	01/28/2009
LISN	ETS	3816	00060336	06/07/2007	06/06/2008

5.4 Measurement Result:

See the next page

Conducted Emission Measurement



Site site #1 Phase: *L1* Temperature: 24

Limit: FCC Class B Conduction(QP) Power: Humidity: 53 %

EUT: MICROPHONE

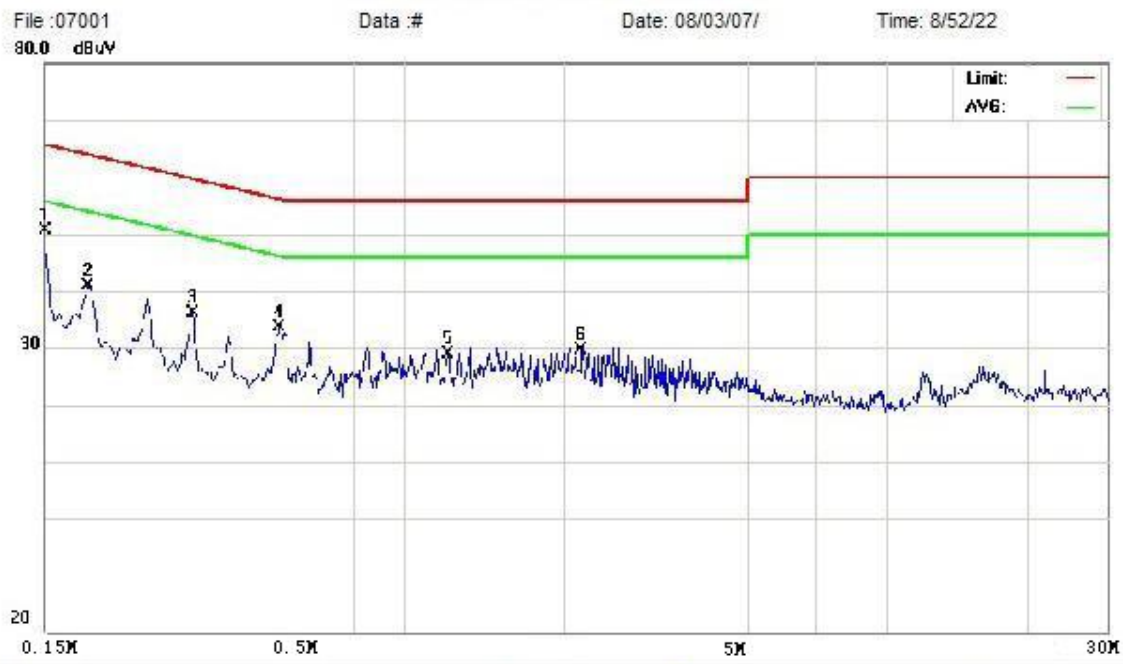
M/N: UB1

Mode: Normal

Note:

No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	0.1860	14.34			22.01	36.35			64.21	54.21	-27.86	-17.86	P	
2	0.3140	16.26			21.73	37.99			59.86	49.86	-21.87	-11.87	P	
3	0.4980	14.30			21.58	35.88			56.03	46.03	-20.15	-10.15	P	
4	0.7500	12.43			21.54	33.97			56.00	46.00	-22.03	-12.03	P	
5	1.1260	10.80			21.46	32.26			56.00	46.00	-23.74	-13.74	P	
6	1.9380	10.68			20.97	31.65			56.00	46.00	-24.35	-14.35	P	

Conducted Emission Measurement



Site site #1 Phase: N Temperature: 24

Limit: FCC Class B Conduction(QP) Power: Humidity: 53 %

EUT: MICROPHONE

M/N: UB1

Mode: Normal

Note:

No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	0.1500	29.18			21.51	50.69			66.00	56.00	-15.31	-5.31	P	
2	0.1860	18.99			22.01	41.00			64.21	54.21	-23.21	-13.21	P	
3	0.3140	14.33			21.73	36.06			59.86	49.86	-23.80	-13.80	P	
4	0.4860	12.04			21.59	33.63			56.24	46.24	-22.61	-12.61	P	
5	1.1220	7.33			21.47	28.80			56.00	46.00	-27.20	-17.20	P	
6	2.1860	8.89			20.82	29.71			56.00	46.00	-26.29	-16.29	P	

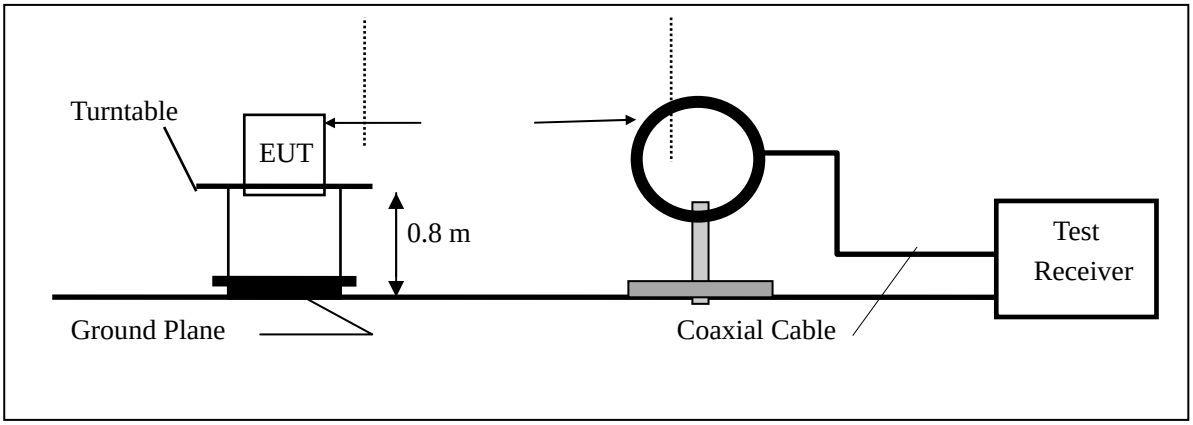
6. Radiated Emission Test

6.1 Measurement Procedure

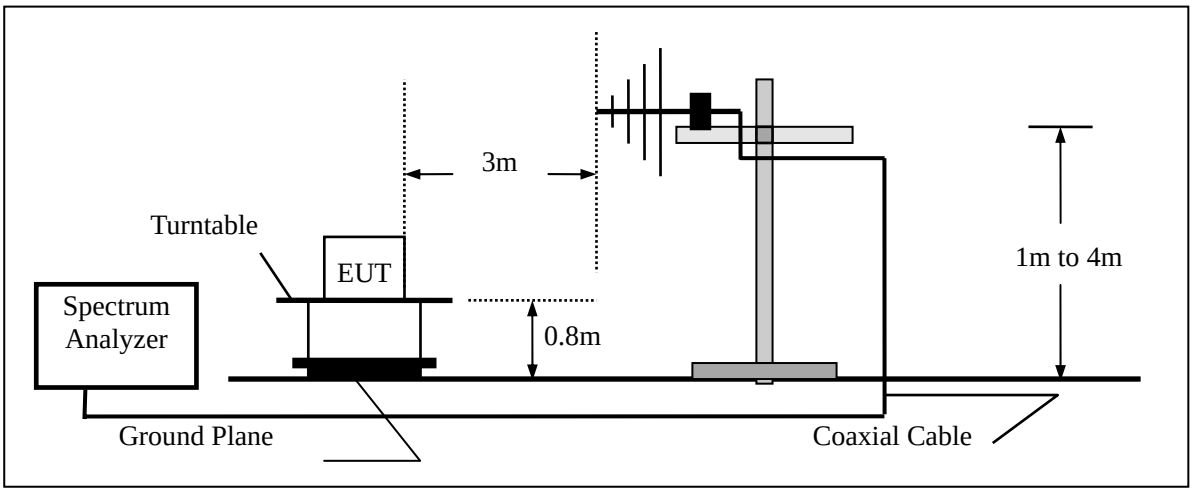
1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Maximum procedure was performed on the twelve highest emissions to ensure EUT compliance.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measured were complete.

6.2 Test SET-UP (Block Diagram of Configuration)

(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



6.3 Measurement Equipment Used:

Open Area Test Site # 3					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Spectrum Analyzer	Agilent	E4443A	MY46185649	06/29/2007	06/28/2008
Biconilog Antenna	ETS	3142C	920250	05/30/2007	05/29/2008
Multi device Controller	ETS	2090	00057230	06/07/2007	06/06/2008
EMI Receiver	R&S	ESCI	100435	01/29/2008	01/28/2009

6.4 Field Strength Calculation

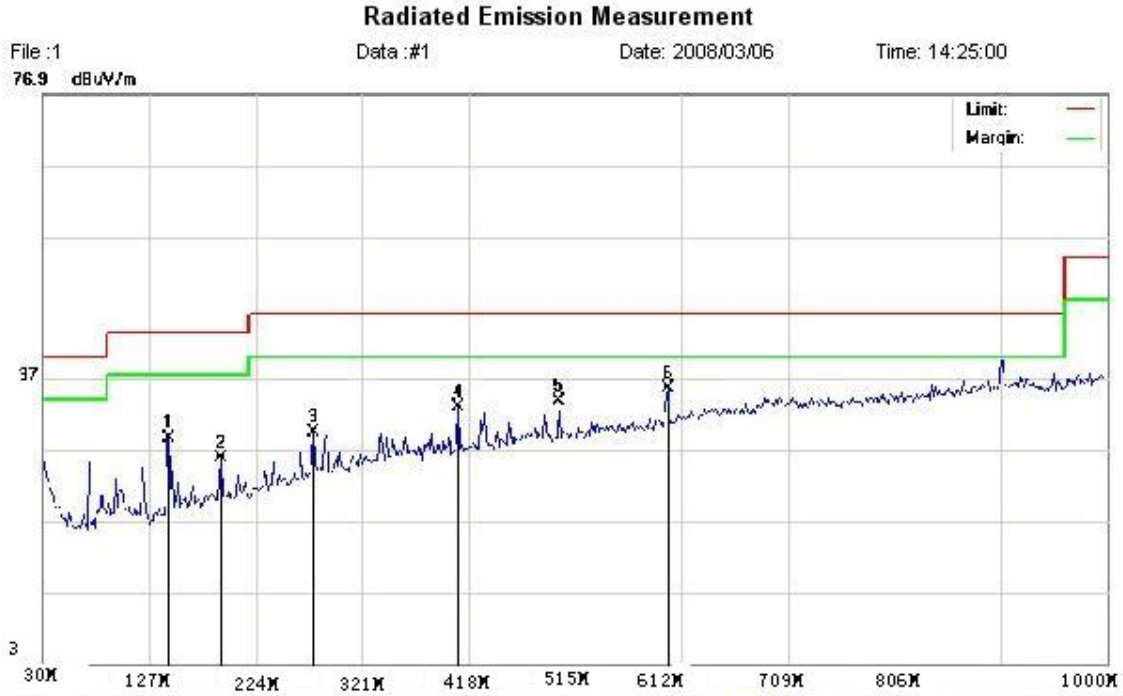
The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

CF=AF+CL-AG

FS = RA + CF

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

6.5Measurement Result



Site : CTI 3 Meter Chamber
Limit: FCC Class B 3M Radiation
EUT: USB MICPHONE
M/N: UB1
Mode: NORMAL
Note:

Polarization: ***Horizontal***
Power:

Temperature: 26
Humidity: 60 %

No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV/m)			Limit (dBuV/m)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	144.7832	18.50			10.09	28.59			43.50		-14.91		P	
2	191.6666	13.83			11.89	25.72			43.50		-17.78		P	
3	275.7332	14.55			14.83	29.38			46.00		-16.62		P	
4	408.3000	14.54			18.44	32.98			46.00		-13.02		P	
5	500.4499	13.86			19.96	33.82			46.00		-12.18		P	
6	599.0666	13.36			22.16	35.52			46.00		-10.48		P	

Radiated Emission Measurement

Site : CTI 3 Meter Chamber
Limit: FCC Class B 3M Radiation
EUT: USB MICPHONE
M/N: UB1
Mode: NORMAL
Note:

Polarization: ***Vertical***
Power:

Temperature: 26
Humidity: 60 %

No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV/m)			Limit (dBuV/m)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	30.0000	12.14			17.63	29.77			40.00		-10.23		P	
2	72.0333	23.69			8.18	31.87			40.00		-8.13		P	
3	96.2833	17.79			10.26	28.05			43.50		-15.45		P	
4	120.5333	21.60			9.19	30.79			43.50		-12.71		P	
5	222.3833	8.96			13.08	22.04			46.00		-23.96		P	
6	314.5333	10.00			16.43	26.43			46.00		-19.57		P	
7	388.9000	9.98			18.24	28.22			46.00		-17.78		P	

APPENDIX 1 PHOTOGRAPHS OF SETUP

RADIATED EMISSION TEST SETUP

CONDUCTED EMISSION TEST SETUP

APPENDIX 2 PHOTOGRAPHS OF EUT

TOP VIEW OF EUT

BOTTOM VIEW OF EUT

----End of the report----