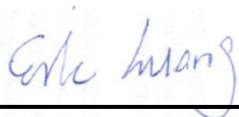


RF Exposure Evaluation Report

APPLICANT : Foxconn International Holdings Ltd.
EQUIPMENT : Data Card
BRAND NAME : Ambit
MODEL NAME : NFF
MARKETING NAME : Ambit NFF
FCC ID : RYQ-NFF
STANDARD : 47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.



Reviewed by: Eric Huang / Deputy Manager



Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.



Table of Contents

1. ADMINISTRATION DATA	4
1.1. Testing Laboratory	4
1.2. Applicant	4
1.3. Manufacturer	4
2. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)	5
3. RF EXPOSURE LIMIT INTRODUCTION	6
4. MAXIMUM RF AVERAGE OUTPUT POWER AMONG PRODUCTION UNITS	7
5. CONDUCTED RF OUTPUT POWER (UNIT: DBM).....	8
6. RADIO FREQUENCY RADIATION EXPOSURE EVALUATION	10



Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA312451	Rev. 01	Initial issue of report	Jun. 19, 2013

**1. Administration Data****1.1. Testing Laboratory**

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978

1.2. Applicant

Company Name	Foxconn International Holdings Ltd.
Address	No. 4, Mingsheng St., Tu-Cheng Dist., New Taipei City 23679, Taiwan (R. O. C.)

1.3. Manufacturer

Company Name	Foxconn International Holdings Ltd.
Address	No. 4, Mingsheng St., Tu-Cheng Dist., New Taipei City 23679, Taiwan (R. O. C.)

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Data Card
Brand Name	Ambit
Model Name	NFF
Marketing name	Ambit NFF
FCC ID	RYQ-NFF
IMEI Code	354221050007586
Tx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz
HW Version	PR3
SW Version	V13.05
Uplink Modulation	GPRS: GMSK EDGE: GMSK / 8PSK WCDMA /HSPA: QPSK
EUT Stage	Production Unit

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

3. RF Exposure Limit Introduction

The FCC categorizes the RF exposure limit based on the intended usage of the device and the user's awareness and ability to exercise control over his or her exposure. This is a consumer product to be used in the home, hence this device was evaluated by mobile device with general population/uncontrolled exposure condition. The definition of these category are shown as follows:

▪ **Mobile Devices:**

A mobile device is defined as a transmitting device designed to be used in other than fixed locations and to be generally used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitters' radiating structures and the body of the user or nearby persons. Transmitters designed to be used by consumers or workers that can be easily re-located are considered mobile devices if they meet the 20 centimeter separation requirement. The FCC rules for evaluating mobile devices for RF compliance are found in 47 CFR Part 2.1091.

▪ **General Population/Uncontrolled Exposure:**

The general population / uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity. Warning labels placed on low-power consumer devices such as cellular telephones are not considered sufficient to allow the device to be considered under the occupational/controlled category and the general population/uncontrolled exposure limits apply to these devices.

Per OET Bulletin 65, the power density limit for General Population/Uncontrolled Exposure summary here:

Table: Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Power Density (S) (mW/cm ²)
0.3–1.34	*(100)
1.34–30	*(180/f ²)
30–300	0.2
300–1500	f/1500
1500–100,000	1.0

f = frequency in MHz

* = Plane-wave equivalent power density

4. Maximum RF average output power among production units

Mode	GSM 850	GSM 1900
	Average power(dBm)	
GPRS/EDGE (GMSK, 1 Tx slot)	32.5	31.0
GPRS/EDGE (GMSK, 2 Tx slots)	32.5	31.0
GPRS/EDGE (GMSK, 3 Tx slots)	31.5	30.0
GPRS/EDGE (GMSK, 4 Tx slots)	30.5	29.0
EDGE (8PSK, 1 Tx slot)	26.5	26.5
EDGE (8PSK, 2 Tx slots)	26.5	26.0
EDGE (8PSK, 3 Tx slots)	26.0	25.5
EDGE (8PSK, 4 Tx slots)	24.5	24.0

Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV
	average power(dBm)		
RMC 12.2Kbps	24.0	24.0	24.0
HSDPA Subtest-1	23.5	24.0	24.0
HSUPA Subtest-5	23.0	23.0	23.0

5. Conducted RF Output Power (Unit: dBm)

<GSM Conducted Power>

Band: GSM850	Burst Average Power (dBm)			Frame-Average Power (dBm)		
Channel	128	189	251	128	189	251
Frequency (MHz)	824.2	836.4	848.8	824.2	836.4	848.8
GPRS (GMSK, 1 Tx slot) – CS1	32.15	32.18	32.16	23.15	23.18	23.16
GPRS (GMSK, 2 Tx slots) – CS1	32.11	32.15	32.14	26.11	26.15	26.14
GPRS (GMSK, 3 Tx slots) – CS1	31.24	31.28	31.25	26.98	27.02	26.99
GPRS (GMSK, 4 Tx slots) – CS1	30.06	30.09	30.08	27.06	27.09	27.08
EDGE (GMSK, 1 Tx slot) – MCS1	32.13	32.17	32.15	23.13	23.17	23.15
EDGE (GMSK, 2 Tx slots) – MCS1	32.10	32.14	32.13	26.10	26.14	26.13
EDGE (GMSK, 3 Tx slots) – MCS1	31.25	31.27	31.25	26.99	27.01	26.99
EDGE (GMSK, 4 Tx slots) – MCS1	30.06	30.08	30.07	27.06	27.08	27.07
EDGE (8PSK, 1 Tx slot) – MCS5	26.38	26.46	26.45	17.38	17.46	17.45
EDGE (8PSK, 2 Tx slots) – MCS5	26.36	26.44	26.43	20.36	20.44	20.43
EDGE (8PSK, 3 Tx slots) – MCS5	25.60	25.64	25.63	21.34	21.38	21.37
EDGE (8PSK, 4 Tx slots) – MCS5	24.43	24.49	24.49	21.43	21.49	21.49

Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.

The calculated method are shown as below:

Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB

Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB

Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB

Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

Band: GSM1900	Burst Average Power (dBm)			Frame-Average Power (dBm)		
Channel	512	661	810	512	661	810
Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8
GPRS (GMSK, 1 Tx slot) – CS1	29.48	29.50	29.61	20.48	20.50	20.61
GPRS (GMSK, 2 Tx slots) – CS1	29.45	29.48	29.61	23.45	23.48	23.61
GPRS (GMSK, 3 Tx slots) – CS1	28.67	28.70	28.81	24.41	24.44	24.55
GPRS (GMSK, 4 Tx slots) – CS1	27.46	27.50	27.64	24.46	24.50	24.64
EDGE (GMSK, 1 Tx slot) – MCS1	29.47	29.50	29.62	20.47	20.50	20.62
EDGE (GMSK, 2 Tx slots) – MCS1	29.45	29.48	29.60	23.45	23.48	23.60
EDGE (GMSK, 3 Tx slots) – MCS1	28.66	28.69	28.81	24.40	24.43	24.55
EDGE (GMSK, 4 Tx slots) – MCS1	27.46	27.50	27.63	24.46	24.50	24.63
EDGE (8PSK, 1 Tx slot) – MCS5	25.69	25.74	25.88	16.69	16.74	16.88
EDGE (8PSK, 2 Tx slots) – MCS5	25.66	25.71	25.87	19.66	19.71	19.87
EDGE (8PSK, 3 Tx slots) – MCS5	24.84	24.85	25.00	20.58	20.59	20.74
EDGE (8PSK, 4 Tx slots) – MCS5	23.65	23.69	23.84	20.65	20.69	20.84

Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.

The calculated method are shown as below:

Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB

Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB

Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB

Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB



<WCDMA Conducted Power>

Band		WCDMA V			WCDMA II			WCDMA IV		
TX Channel		4132	4182	4233	9262	9400	9538	1312	1413	1513
Rx Channel		4357	4407	4458	9662	9800	9938	1537	1638	1738
Frequency (MHz)		826.4	836.4	846.6	1852.4	1880	1907.6	1712.4	1732.6	1752.6
3GPP Rel 99	RMC 12.2Kbps	23.69	23.54	23.46	23.64	23.65	23.77	23.77	23.69	23.55
3GPP Rel 6	HSDPA Subtest-1	23.48	23.30	23.28	23.39	23.40	23.52	23.49	23.35	23.27
3GPP Rel 6	HSDPA Subtest-2	22.44	22.29	22.27	22.40	22.41	22.55	22.51	22.44	22.28
3GPP Rel 6	HSDPA Subtest-3	22.21	22.09	21.99	22.18	22.19	22.31	22.33	22.16	22.01
3GPP Rel 6	HSDPA Subtest-4	21.93	21.78	21.77	21.92	21.94	22.13	22.03	21.92	21.79
3GPP Rel 6	HSUPA Subtest-1	22.47	22.37	22.31	22.60	22.61	22.80	22.61	22.57	22.37
3GPP Rel 6	HSUPA Subtest-2	20.46	20.40	20.37	20.56	20.63	20.86	20.67	20.63	20.48
3GPP Rel 6	HSUPA Subtest-3	21.25	21.12	21.10	21.38	21.40	21.60	21.39	21.35	21.19
3GPP Rel 6	HSUPA Subtest-4	20.76	20.62	20.60	20.87	20.93	20.99	20.92	20.91	20.73
3GPP Rel 6	HSUPA Subtest-5	22.67	22.47	22.44	22.62	22.69	22.88	22.74	22.63	22.47
3GPP MPR specification	MPR result	WCDMA V			WCDMA II			WCDMA IV		
0	HSDPA Subtest-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	HSDPA Subtest-2	1.04	1.01	1.01	0.99	0.99	0.97	0.98	0.91	0.99
≤ 0.5	HSDPA Subtest-3	1.27	1.21	1.29	1.21	1.21	1.21	1.16	1.19	1.26
≤ 0.5	HSDPA Subtest-4	1.55	1.52	1.51	1.47	1.46	1.39	1.46	1.43	1.48
≤ 0	HSUPA Subtest-1	0.20	0.10	0.13	0.02	0.08	0.08	0.13	0.06	0.10
≤ 2	HSUPA Subtest-2	2.21	2.07	2.07	2.06	2.06	2.02	2.07	2.00	1.99
≤ 1	HSUPA Subtest-3	1.42	1.35	1.34	1.24	1.29	1.28	1.35	1.28	1.28
≤ 2	HSUPA Subtest-4	1.91	1.85	1.84	1.75	1.76	1.89	1.82	1.72	1.74
≤ 0	HSUPA Subtest-5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

6. Radio Frequency Radiation Exposure Evaluation

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna

<For this device, the calculation is as follows>

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum ERP/EIRP (W)	Maximum output power Limit (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)
GSM 850 (1 Tx slot)	824.2	6.5	32.5	4.84	7	1000.00	0.20	0.55
GPRS 850 (1 Tx slot)	824.2	6.5	32.5	4.84	7	1000.00	0.20	0.55
GPRS 850 (2 Tx slots)	824.2	6.5	32.5	4.84	7	1995.26	0.40	0.55
GPRS 850 (3 Tx slots)	824.2	6.5	31.5	3.85	7	2365.92	0.47	0.55
GPRS 850 (4 Tx slots)	824.2	6.5	30.5	3.05	7	2511.89	0.50	0.55
EGPRS 850 (1 Tx slot)	824.2	6.5	26.5	1.22	7	251.19	0.05	0.55
EGPRS 850 (2 Tx slots)	824.2	6.5	26.5	1.22	7	251.19	0.05	0.55
EGPRS 850 (3 Tx slots)	824.2	6.5	26.0	1.08	7	666.81	0.13	0.55
EGPRS 850 (4 Tx slots)	824.2	6.5	24.5	0.77	7	630.96	0.13	0.55
GSM 1900 (1 Tx slot)	1850.2	2.0	31.0	2.00	2	251.19	0.05	1.00
GPRS 1900 (1 Tx slot)	1850.2	2.0	31.0	2.00	2	251.19	0.05	1.00
GPRS 1900 (2 Tx slots)	1850.2	2.0	31.0	2.00	2	501.19	0.10	1.00
GPRS 1900 (3 Tx slots)	1850.2	2.0	30.0	1.58	2	594.29	0.12	1.00
GPRS 1900 (4 Tx slots)	1850.2	2.0	29.0	1.26	2	630.96	0.13	1.00
EGPRS 1900 (1 Tx slot)	1850.2	2.0	26.5	0.71	2	89.13	0.02	1.00
EGPRS 1900 (2 Tx slots)	1850.2	2.0	26.0	0.63	2	158.49	0.03	1.00
EGPRS 1900 (3 Tx slots)	1850.2	2.0	25.5	0.56	2	210.86	0.04	1.00
EGPRS 1900 (4 Tx slots)	1850.2	2.0	24.0	0.40	2	199.53	0.04	1.00
WCDMA Band 5	826.4	6.5	24.0	0.68	7	1122.02	0.22	0.55
WCDMA Band 4	1712.4	5.5	24.0	0.89	1	891.25	0.18	1.00
WCDMA Band 2	1852.4	2.0	24.0	0.40	2	398.11	0.08	1.00

Note: For conservativeness, the lowest uplink frequency of each band is used to determine the MPE limit of that band

**Conclusion:**

Based on FCC OET Bulletin 65 Supplement C and 47 CFR §2.1091, the analysis concludes that this product when transmitting in standalone within a host device, is compliant with the FCC RF exposure requirements in mobile exposure condition, provided the conducted power and antenna gain do not exceed the limits for each given frequency band per wireless technology as follow table:

Technology	Band	Maximum Conducted Power (dBm)	Maximum Standalone Antenna Gain (dBi)
GSM	GSM850	32.5	6.5
	GSM1900	31.5	2.0
UMTS	Band 5	24	6.5
	Band 4	24	5.5
	Band 2	24	2.0