

Prüfbericht-Nr.: <i>Test Report No.:</i>	50088082 001	Auftrags-Nr.: <i>Order No.:</i>	154235491	Seite 1 von 17 <i>Page 1 of 17</i>
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	439773	Auftragsdatum: <i>Order date:</i>	24.03.2017	
Auftraggeber: <i>Client:</i>	NCC CO.,LTD New River Tower 3F 1-6-11 Shinkawa Chuoku Tokyo zip104-0033			
Prüfgegenstand: <i>Test item:</i>	STRETCH REFLE Air2.0 (FCC ID:2ANO2-H)			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	NCC-002			
Auftrags-Inhalt: <i>Order content:</i>	Complete test			
Prüfgrundlage: <i>Test specification:</i>	FCC CFR47 Part 15, Subpart B ANSI C63.4: 2014			
Wareneingangsdatum: <i>Date of receipt:</i>	06.04.2017	Please refer to the External Photos		
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000525574-001			
Prüfzeitraum: <i>Testing period:</i>	23.06.2017 to 23.06.2017			
Ort der Prüfung: <i>Place of testing:</i>	MRT Technology(Suzhou) Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shanghai) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von / tested by:		kontrolliert von / reviewed by:		
 23.06.2017 Owen Tian / Senior Project Manager Datum Name / Stellung Unterschrift Date Name / Position Signature		23.06.2017 Eliot Zhang / Assistant Project Manager Datum Name / Stellung Unterschrift Date Name / Position Signature		
Sonstiges / Other				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

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TEST SUMMARY

5.1.1 CONDUCTED EMISSION
RESULT: Pass

5.2.1 RADIATED EMISSION
RESULT: Pass

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1. General Remarks

1.1 Complementary Materials

Null.

2. Test Sites

2.1 Test Facilities

MRT Technology (Suzhou) Co., Ltd.

D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China

The Federal Communications Commission has reviewed the technical characteristics of the radiated and conducted emission facility, and has found these test facilities to be in compliance with the requirements of section 2.948 of the FCC rules. The description of the test facility is listed under FCC registration number 809388.

The Industry Canada has reviewed the technical characteristics of the radiated and conducted emission facility, and has found these test facilities to be in compliance. The description of the test facility is listed under chambers filing number 11384A.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Conducted Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Due Date
EMI Test Receiver	R&S	ESR7	101209	03.11.2017
Two-Line V-Network	R&S	ENV216	101683	02.11.2017
Two-Line V-Network	R&S	ENV216	101684	02.11.2017
Temperature/Humidity Meter	Yuhuaze	N/A	N/A	19.12.2017

Radiated Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Due Date
Spectrum Analyzer	Agilent	E4447A	MY45300136	08.12.2017
EMI Test Receiver	R&S	ESR7	101209	03.11.2017
Preamplifier	Schwarzbeck	BBV 9721	9721-008	15.04.2018
Preamplifier	Agilent	83017A	MY53270040	28.03.2018
Loop Antenna	Schwarzbeck	FMZB1519	1519-041	14.12.2017
TRILOG Antenna	Schwarzbeck	VULB9162	9162-047	07.11.2017
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1167	07.11.2017
Broadband Horn Antenna	Schwarzbeck	BBHA9170	BBHA9170549	03.01.2018
Digital Thermometer & Hygrometer	Minggao	N/A	N/A	30.11.2017

2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

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2.5 Measurement Uncertainty

Table 2: Measurement Uncertainty

Measurement Type	Frequency	Uncertainty
Antenna Port Conducted Emission	< 1GHz	±0.39dB
	> 1GHz	±0.68dB
Radiated Emission	30MHz - 1GHz	±5.34dB
	> 1GHz	±5.40dB

3. General Product Information

3.1 Product Function and Intended Use

The EUT (Equipment Under Test) contains a STRERCH REFLE Air2.0 and Remote Control.

The STRERCH REFLE Air2.0 contains a 433.92MHz receiver.

The Remote Control contains a 433.92MHz transmitter.

The aim of this report is to evaluate the performance of FCC Part 15B.

For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

STRERCH REFLE Air2.0 (Receiver)

Model name	: NCC-002
Frequency band	: 433.05-434.79 MHz
Operating Frequency	: 433.92 MHz
Modulation	: ASK
Operation Voltage	: DC 3.7V Re-chargable battery
Charger Voltage	: Input AC 100-240V ,50-60Hz 0.3A, output DC 5V, 1200mA
Remote control(Transmitter)	
Rated Voltage	: DC 3V (CR2025)
Frequency band	: 433.05-434.79 MHz
Operating Frequency	: 433.92 MHz

3.3 Independent Operation Modes

The basic operation modes are:

- A. Operating with the receiver function
- B. charging

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

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3.5 Submitted Documents

- Bill of Material
- PCB Layout
- Photo Document
- Circuit Diagram
- Instruction Manual
- Rating Label

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to operating at its maximan loaded. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.4: 2014.

4.3 Special Accessories and Auxiliary Equipment

Null.

4.4 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

5. Test Results

5.1 Emission in the Frequency Range up to 30MHz

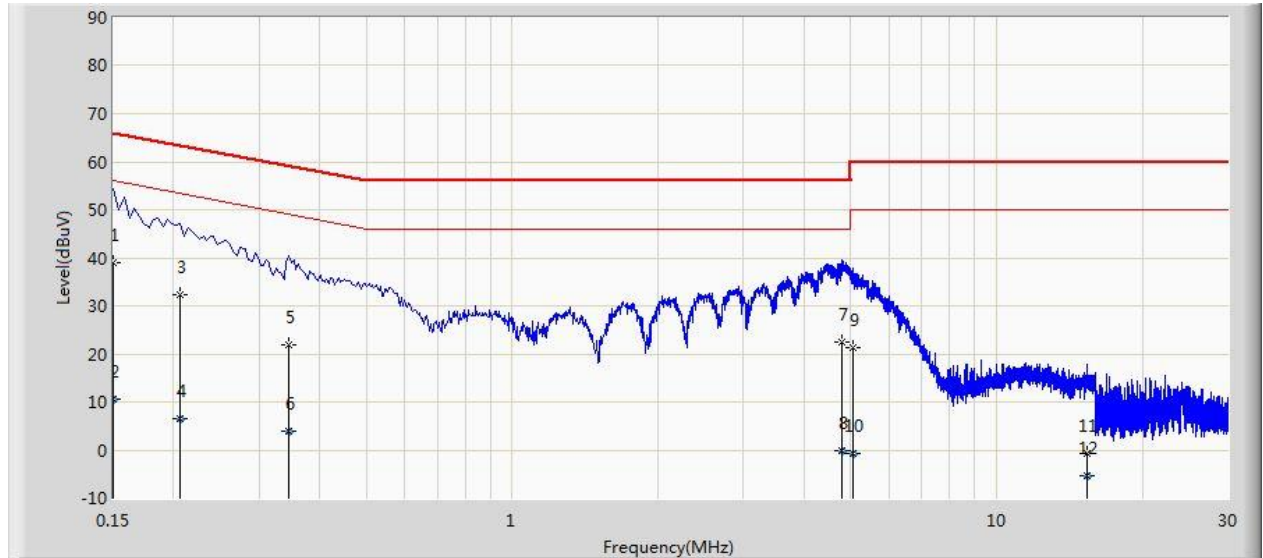
5.1.1 Conducted Emission

RESULT:**Pass**

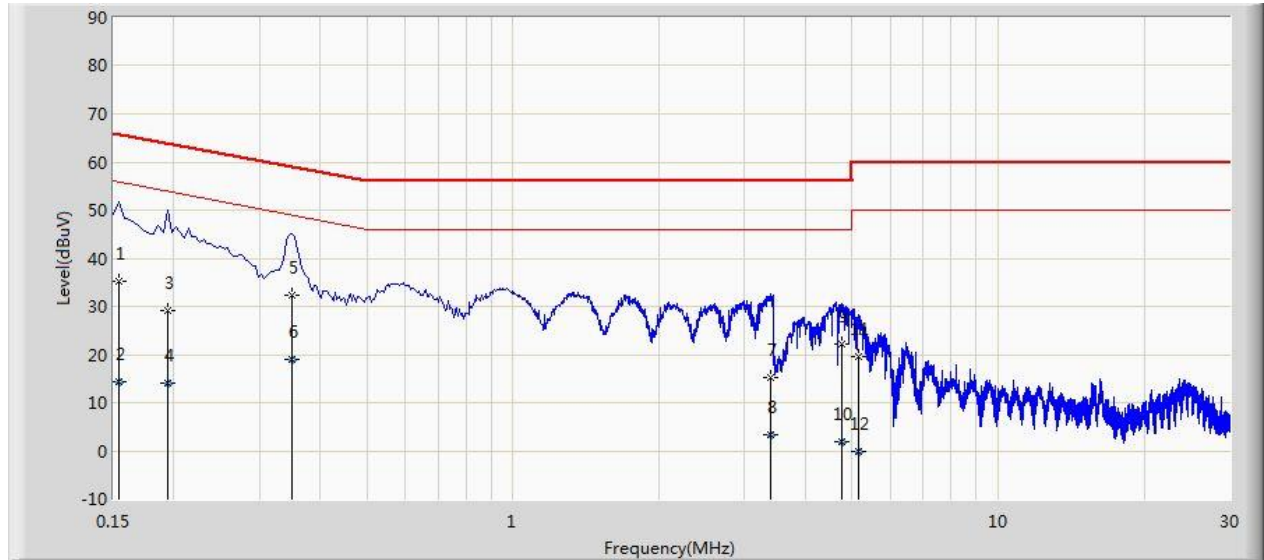
Date of testing	: 23.06.2017
Test standard	: FCC Part 15.107 (a)
Test procedure	: ANSI C63.4: 2014
Limit	: FCC Part 15.107(a)
Kind of test site	: Shielded room

Test setup

Operation Mode	: B
Ambient temperature	: 25°C
Relative humidity	: 52%
Atmospheric pressure	: 101kPa

Figure 1: Conducted Emission, L Line

Table 3: Conducted Emission, L Line

Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV)	Factor (dB)	Type
0.150	38.967	27.798	-27.033	66.000	11.168	QP
0.150	10.675	-0.494	-45.325	56.000	11.168	AV
0.206	32.349	22.368	-31.016	63.365	9.981	QP
0.206	6.386	-3.595	-46.979	53.365	9.981	AV
0.346	22.026	11.985	-37.032	59.058	10.041	QP
0.346	3.828	-6.213	-45.230	49.058	10.041	AV
4.798	22.325	12.300	-33.675	56.000	10.024	QP
4.798	-0.003	-10.028	-46.003	46.000	10.024	AV
5.042	21.400	11.363	-38.600	60.000	10.037	QP
5.042	-0.766	-10.803	-50.766	50.000	10.037	AV
15.414	-0.748	-10.818	-60.748	60.000	10.070	QP
15.414	-5.373	-15.443	-55.373	50.000	10.070	AV

Figure 2: Conducted Emission, N Line

Table 4: Conducted Emission, N Line

Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV)	Factor (dB)	Type
0.154	35.271	24.556	-30.510	65.781	10.716	QP
0.154	14.378	3.662	-41.403	55.781	10.716	AV
0.194	29.013	18.992	-34.851	63.864	10.021	QP
0.194	13.918	3.897	-39.946	53.864	10.021	AV
0.350	32.234	22.159	-26.728	58.962	10.074	QP
0.350	19.031	8.956	-29.931	48.962	10.074	AV
3.406	15.300	5.394	-40.700	56.000	9.907	QP
3.406	3.244	-6.663	-42.756	46.000	9.907	AV
4.766	22.238	12.209	-33.762	56.000	10.029	QP
4.766	2.003	-8.026	-43.997	46.000	10.029	AV
5.162	19.624	9.567	-40.376	60.000	10.057	QP
5.162	-0.102	-10.159	-50.102	50.000	10.057	AV

5.2 Emission in the Frequency Range 9KHz~5GHz

5.2.1 Radiated Emission

RESULT:
Pass

Date of testing : 23.06.2017
 Test standard : FCC Part 15.109(a)
 Test procedure : ANSI C63.4: 2014
 Limit : FCC Part 15.109(a)
 Kind of test site : 3m Semi-Anechoic Chamber

Test setup

Operation Mode : A,B
 Ambient temperature : 25°C
 Relative humidity : 52%
 Atmospheric pressure : 101kPa

Table 5: Radiated Emission, mode A

Freq. [MHz]	Measure Level [dBuV/m]	Reading Level [dBuV]	Margin [dB]	Limit [dBuV/m]	Factor [dB]	Type	Ant. Pol.
143.005	30.844	16.150	-12.656	43.500	14.694	QP	H
179.060	37.137	24.200	-6.363	43.500	12.938	QP	H
237.580	38.296	25.596	-7.704	46.000	12.700	QP	H
267.494	37.016	23.600	-8.984	46.000	13.417	QP	H
407.815	39.343	22.641	-6.657	46.000	16.702	QP	H
896.635	34.692	10.400	-11.308	46.000	24.293	QP	H
1561.000	62.065	69.767	-11.935	74.000	-7.702	PK	H
1561.000	21.536	29.238	-32.464	54.000	-7.702	AV	H
1841.500	56.614	63.292	-17.386	74.000	-6.678	PK	H
1841.500	21.367	28.045	-32.633	54.000	-6.678	AV	H
3201.500	56.017	57.627	-17.983	74.000	-1.609	PK	H
3201.500	22.818	24.428	-31.182	54.000	-1.609	AV	H
30.970	23.959	10.310	-16.041	40.000	13.649	QP	V
143.490	26.369	11.640	-17.131	43.500	14.729	QP	V
178.410	30.183	17.150	-13.317	43.500	13.033	QP	V
255.525	29.598	16.548	-16.402	46.000	13.049	QP	V
643.010	31.417	10.156	-14.583	46.000	21.261	QP	V
903.970	26.045	1.640	-19.955	46.000	24.405	QP	V
1841.500	55.187	61.865	-18.813	74.000	-6.678	PK	V
1841.500	21.351	28.029	-32.649	54.000	-6.678	AV	V

2292.000	62.662	66.116	-11.338	74.000	-3.454	PK	V
2292.000	22.961	26.415	-31.039	54.000	-3.454	AV	V
2496.000	56.937	60.588	-17.063	74.000	-3.651	PK	V
2496.000	22.388	26.039	-31.612	54.000	-3.651	AV	V

Table 6: Radiated Emission, mode B

Freq. [MHz]	Measure Level [dBuV/m]	Reading Level [dBuV]	Margin [dB]	Limit [dBuV/m]	Factor [dB]	Type	Ant. Pol.
39.700	20.494	5.986	-19.506	40.000	14.508	QP	H
90.150	20.545	10.310	-22.955	43.500	10.235	QP	H
119.725	29.735	16.648	-13.765	43.500	13.087	QP	H
131.365	30.961	17.131	-12.539	43.500	13.830	QP	H
162.890	25.113	10.177	-18.387	43.500	14.936	QP	H
227.880	23.970	11.590	-22.030	46.000	12.380	QP	H
2275.000	36.604	40.049	-37.396	74.000	-3.445	PK	H
2275.000	22.180	25.625	-31.820	54.000	-3.445	AV	H
35.820	32.571	18.640	-7.429	40.000	13.931	QP	V
40.670	36.657	22.180	-3.343	40.000	14.477	QP	V
46.490	34.298	20.160	-5.702	40.000	14.138	QP	V
59.585	30.358	16.970	-9.642	40.000	13.388	QP	V
79.955	27.899	17.815	-12.101	40.000	10.084	QP	V
129.425	28.335	14.641	-15.165	43.500	13.695	QP	V
2249.500	35.073	38.523	-38.927	74.000	-3.449	PK	V
2249.500	22.048	25.498	-31.952	54.000	-3.449	AV	V

Note: 9KHz~30MHz no radiated emission , so no frequency list in the table.

6. Photographs of Sample and Test Set-up

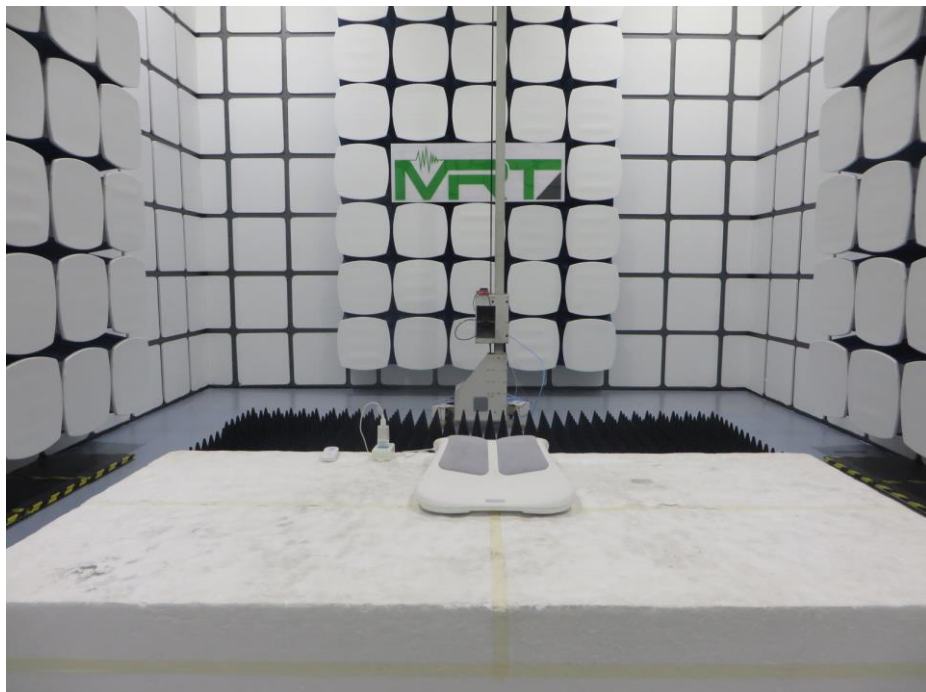
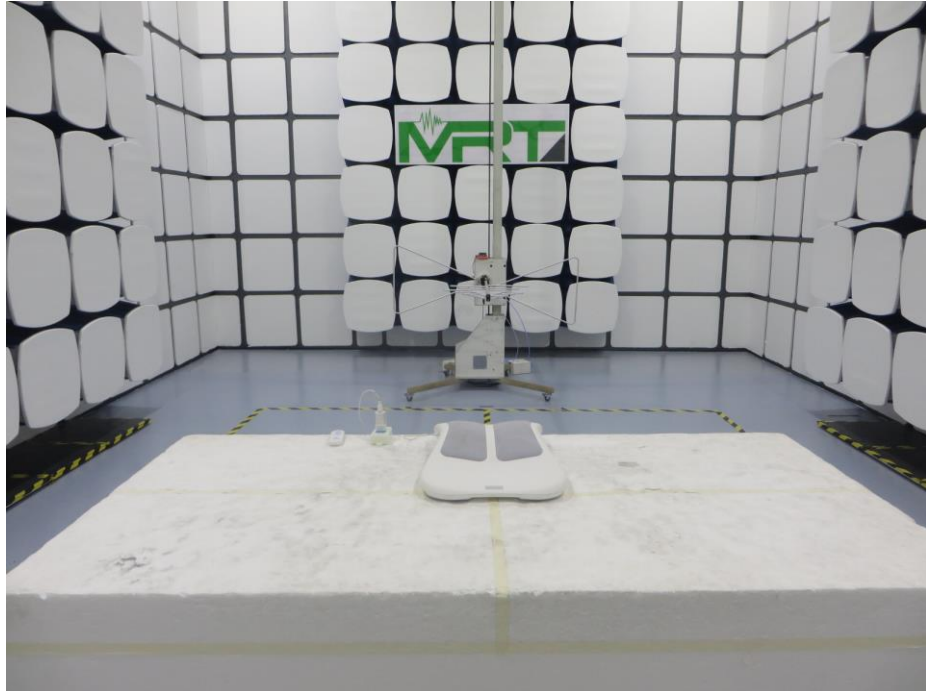
Photograph 1: Photographs of Sample



Photograph 2: Set-up for Conducted emissions



Photograph 3: Set-up for Radiated emissions



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