FCC RADIO TEST REPORT

FCC ID	:	**XRAFB521**
Equipment	:	**Wireless Device**
Model Name	:	**FB521**
Applicant	:	**Fitbit LLC** **199 Fremont Street, 14th Floor, San Francisco, CA 94105 USA**
Manufacturer	:	**Fitbit LLC** **199 Fremont Street, 14th Floor, San Francisco, CA 94105 USA**
Standard	:	**FCC Part 15 Subpart C §15.225**

The product was received on Jan. 26, 2022 and testing was performed from Feb. 08, 2022 to Feb. 16, 2022. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issue Date
FR1O1321C	01	Initial issue of report	Mar. 24, 2022
FR1O1321C	02	Remove brand name and revise EUT information	Aug. 11, 2022

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
-	15.207	AC Power Line Conducted Emissions	Not Required	-
3.1	15.215(c)	20dB Spectrum Bandwidth	Pass	-
	2.1049	99% OBW Spectrum Bandwidth	Reporting only	-
3.2	15.225(e)	Frequency Stability	Pass	-
3.3	15.225(a)(b)(c)	Field Strength of Fundamental Emissions	Pass	Max level 3.77 dBμV/m at 13.560 MHz
3.4	15.225(d) 15.209	Radiated Spurious Emissions	Pass	7.94 dB under the limit at 30.000MHz
3.5	15.203	Antenna Requirements	Pass	-

Note:

1. Not required means after assessing, test items are not necessary to carry out.
2. The device is not able to do NFC transmission when charging mode. Therefore AC Power Line Conducted Emissions test is not required.

Declaration of Conformity:
1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results. 2. The measurement uncertainty please refer to this report "Uncertainty of Evaluation".
Comments and Explanations:
The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Yun Huang

Report Producer: Celery Wei

1. General Description

1.1 Product Feature of Equipment Under Test

Bluetooth, NFC, and GNSS

Product Feature	
Sample 1	EUT 1
Sample 2	EUT 2
Sample 3	EUT 3
FW Version	60.4001.158.24
Antenna Type	Bluetooth: Slot Antenna GPS/Glonass: Slot Antenna NFC: Loop Antenna

Remark: The EUT's information above is declared by manufacturer. Please refer to Comments and Explanations in report summary.

1.2 Modification of EUT

No modifications made to the EUT during the testing.

1.3 Testing Location

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory	
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	**Sporton Site No.**	
	TH03-HY	03CH07-HY
Test Engineer	Oscar Chi	Jesse Wang, Stan Hsieh and Ken Wu
Temperature	22~24℃	19.5~21.4℃
Relative Humidity	53~55%	65~68.4%

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC designation No.: TW1190

1.4 Applicable Standards

According to the specifications declared by the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.225
- FCC KDB 414788 D01 Radiated Test Site v01r01
- ANSI C63.10-2013

Remark:

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. The TAF code is not including all the FCC KDB listed without accreditation.
3. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2. Test Configuration of Equipment Under Test

2.1 Descriptions of Test Mode

Investigation has been done on all the possible configurations.

The following table is a list of the test modes shown in this test report.

Test Items	
Field Strength of Fundamental Emissions	
20dB Spectrum Bandwidth	Frequency Stability
Radiated Emissions 9kHz~30MHz	Radiated Emissions 30MHz~1GHz

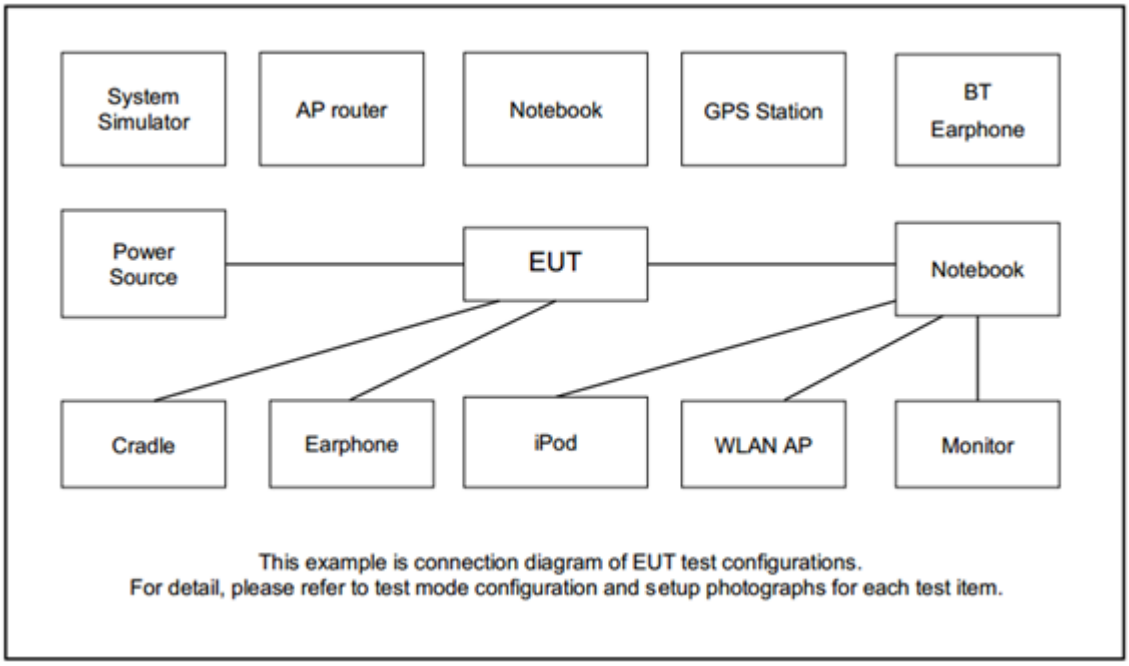
The NFC test is performed with app “Tera term” installed in the mobile phone. It can enable continuous transmission with type A/F tag respectively.

The EUT pre-scanned in reader mode with NFC tag (four NFC type A, F) and without reading tag. Based on the highest field strength of fundamental and spurious emissions, the worst case type (type F) was recorded in this report.

The measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and find Y plane as worst plane.

Remark: For Radiated Test Cases, the tests were performed with Smartwatch (FB511) and Sample 3, since the only difference of Sample 1, Sample 2 and Sample 3 is battery. Except this, the hardware design and enclosure material are identical.

2.2 Connection Diagram of Test System



2.3 Table for Supporting Units

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Smartwatch	Fitbit	FB511	XRAFB511	N/A	N/A

2.4 EUT Operation Test Setup

The EUT is programmed to be in continuously transmitting mode.

The ancillary equipment, NFC card, is used to make the EUT (NFC) continuously transmitting signal (Power Level: Default) at 13.56MHz and is placed around 0 cm gap to the EUT.

The RF test items, utility “Tera term” was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level (Power setting: Default), data rate (Type F Bit Rate: 424kbps) and the application type and for continuous transmitting signals.

3. Test Results

3.1 20dB and 99% OBW Spectrum Bandwidth Measurement

3.1.1 Limit

Intentional radiators must be designed to ensure that the 20 dB and 99% emission bandwidth in the specific band 13.553~13.567 MHz.

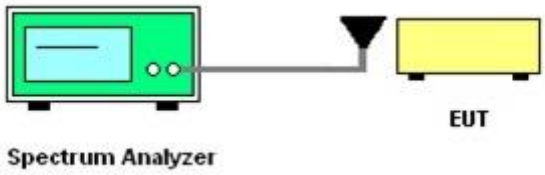
3.1.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.1.3 Test Procedures

1. The spectrum analyzer connected via a receive antenna placed near the EUT in peak Max Hold Mode.
2. The resolution bandwidth of 1 kHz and the video bandwidth of 3 kHz were used.
3. Measured the spectrum width with power higher than 20 dB below carrier.
4. Measured the 99% OBW.

3.1.4 Test Setup



3.1.5 Test Result of RF Near Field Test Items

Please refer to Appendix A.

3.2 Frequency Stability Measurement

3.2.1 Limit

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% (100ppm) of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed by using a new battery.

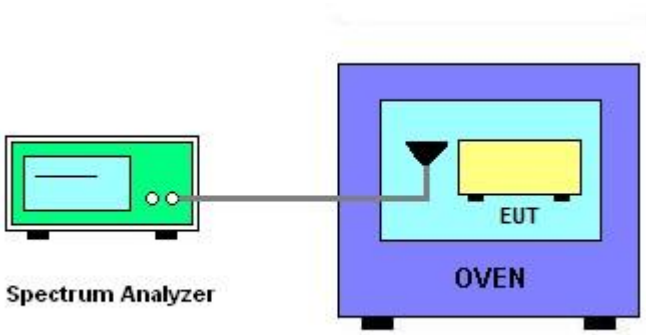
3.2.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.2.3 Test Procedures

1. The spectrum analyzer connected via a receive antenna placed near the EUT.
2. EUT has transmitted signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire emissions bandwidth.
4. Set RBW = 1 kHz, VBW = 3 kHz with peak detector and maxhold settings.
5. The fc is declaring of channel frequency. Then the frequency error formula is $(fc-f)/fc \times 10^6$ ppm and the limit is less than ±100ppm.
6. Extreme temperature rule is -20°C~50°C.

3.2.4 Test Setup



3.2.5 Test Result of RF Near Field Test Items

Please refer to Appendix A.

3.3 Field Strength of Fundamental Emissions and Mask Measurement

3.3.1 Limit

Rules and specifications	FCC CFR 47 Part 15 section 15.225			
Description	Compliance with the spectrum mask is tested with RBW set to 9kHz.			
Freq. of Emission (MHz)	Field Strength (μV/m) at 30m	Field Strength (dBμV/m) at 30m	Field Strength (dBμV/m) at 10m	Field Strength (dBμV/m) at 3m
1.705~13.110	30	29.5	48.58	69.5
13.110~13.410	106	40.5	59.58	80.5
13.410~13.553	334	50.5	69.58	90.5
13.553~13.567	15848	84.0	103.08	124.0
13.567~13.710	334	50.5	69.58	90.5
13.710~14.010	106	40.5	59.58	80.5
14.010~30.000	30	29.5	48.58	69.5

Remark:

1. The field strength test result is in 3m test distance, follow test rules the test data use distance extrapolation factor and reported in this report at 30m test result.
2. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)

3.3.2 Measuring Instruments

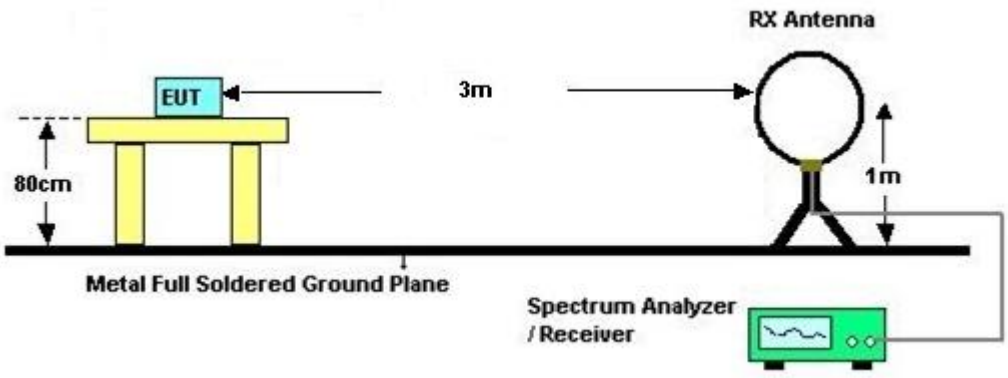
Please refer to the measuring equipment list in this test report.

3.3.3 Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT is placed on the top of the turntable 0.8 meter above ground. The phase center of the loop receiving antenna mounted antenna tower is placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable is rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the receiving antenna is fixed at one meter above ground to find the maximum emissions field strength.
4. For Fundamental emissions, use the receiver to measure QP reading.
5. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
6. Compliance with the spectrum mask is tested with RBW set to 9 kHz.
   Note: Emission level (dBμV/m) = 20 log Emission level (μV/m).

3.3.4 Test Setup

For radiated test below 30MHz



3.3.5 Test Result of Field Strength of Fundamental Emissions and Mask

Please refer to Appendix B.

3.4 Radiated Emissions Measurement

3.4.1 Limit

The field strength of any emissions which appear outside of 13.110 ~14.010MHz band shall not exceed the general radiated emissions limits.

Frequencies (MHz)	Field Strength (μV/m)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

3.4.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.4.3 Measuring Instrument Setting

The following table is the setting of receiver:

Receiver Parameter	Setting
Attenuation	Auto
Frequency Range: 9kHz~150kHz	RBW 200Hz for QP
Frequency Range: 150kHz~30MHz	RBW 9kHz for QP
Frequency Range: 30MHz~1000MHz	RBW 120kHz for Peak

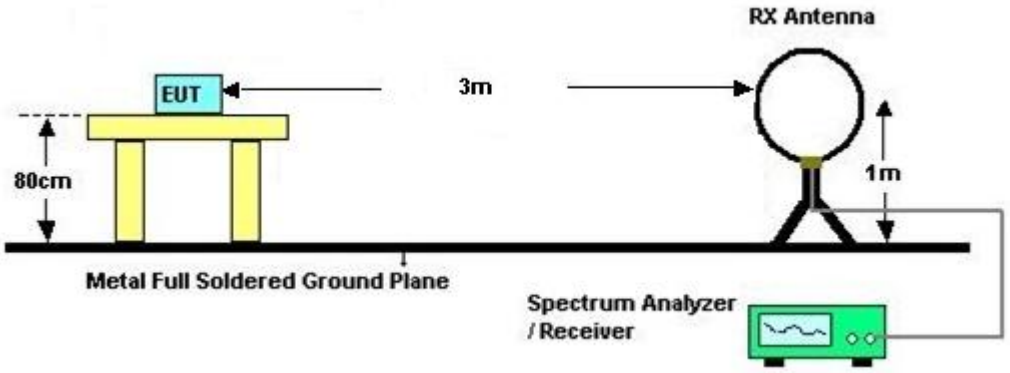
Note: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz and 110-490 kHz. Radiated emission limits in these two bands are based on measurements employing an average detector.

3.4.4 Test Procedures

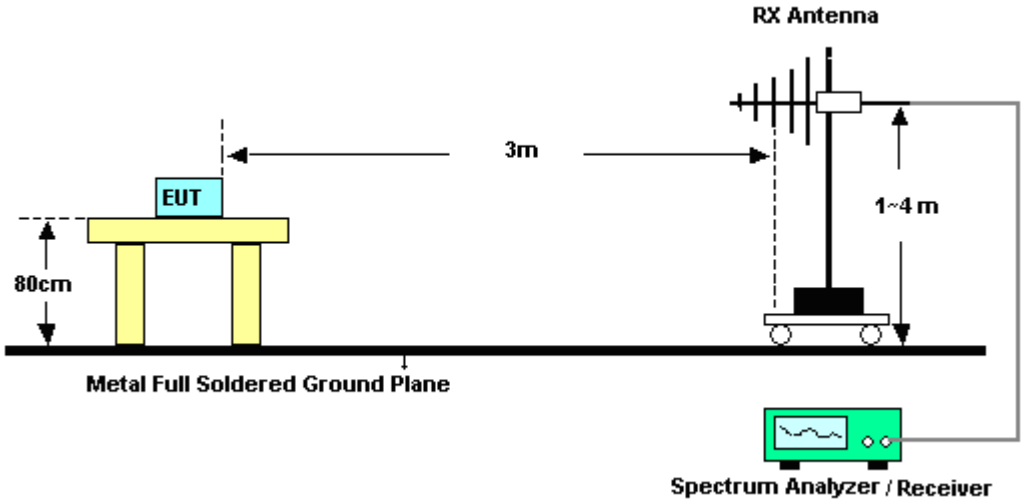
1. Configure the EUT according to ANSI C63.10. The EUT is placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower is placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable is rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna is varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower is scanned (from 1 M to 4 M) and then the turntable is rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
7. In case the emission is lower than 30 MHz, loop antenna has to be used for measurement and the recorded data shall be QP measured by receiver.

3.4.5 Test Setup

For radiated test below 30MHz



For radiated test above 30MHz



3.4.6 Test Result of Radiated Emissions Measurement

Please refer to Appendix B.

Remark: There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.5 Antenna Requirements

3.5.1 Standard Applicable

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited.

The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

3.5.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

4. List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Programmable Power Supply	GW Instek	PSS-2005	EL890001	1V~20V 0.5A~4A	Oct. 06, 2021	Feb. 08, 2022	Oct. 05, 2022	RF Near Field (TH03-HY)
Hygrometer	TECPEL	DTM-303B	TP210073	N/A	Nov. 16, 2021	Feb. 08, 2022	Nov. 15, 2022	RF Near Field (TH03-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101329	9kHz~30GHz	Sep. 30, 2021	Feb. 08, 2022	Sep. 29, 2022	RF Near Field (TH03-HY)
Temperature & Humidity Cabinet Chamber	ESPEC	LHU-113	1012005860	-20℃ ~85℃	Dec. 09, 2021	Feb. 08, 2022	Dec. 08, 2022	RF Near Field (TH03-HY)
Coupling loop antenna	EMCI	LF R 400	N/A	100KHz~50MHz	N/A	Feb. 08, 2022	N/A	RF Near Field (TH03-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	35419 & 03	30MHz~1GHz	Apr. 28, 2021	Feb. 09, 2022~ Feb. 16, 2022	Apr. 27, 2022	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Jan. 07, 2022	Feb. 09, 2022~ Feb. 16, 2022	Jan. 06, 2023	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz~1GHz	Oct. 04, 2021	Feb. 09, 2022~ Feb. 16, 2022	Oct. 03, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY15682-4	30MHz to 18GHz	Feb. 24, 2021	Feb. 09, 2022~ Feb. 16, 2022	Feb. 23, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24971-4	9kHz to 18GHz	Feb. 24, 2021	Feb. 09, 2022~ Feb. 16, 2022	Feb. 23, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655-4	9kHz to 18GHz	Feb. 24, 2021	Feb. 09, 2022~ Feb. 16, 2022	Feb. 23, 2022	Radiation (03CH07-HY)
Controller	EMEC	EM1000	N/A	Control Ant Mast	N/A	Feb. 09, 2022~ Feb. 16, 2022	N/A	Radiation (03CH07-HY)
Controller	MF	MF-7802	N/A	Control Turn table	N/A	Feb. 09, 2022~ Feb. 16, 2022	N/A	Radiation (03CH07-HY)
Antenna Mast	EMEC	AM-BS-4500E	N/A	Boresight mast 1M~4M	N/A	Feb. 09, 2022~ Feb. 16, 2022	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Feb. 09, 2022~ Feb. 16, 2022	N/A	Radiation (03CH07-HY)
Software	Audix	E3	N/A	N/A	N/A	Feb. 09, 2022~ Feb. 16, 2022	N/A	Radiation (03CH07-HY)
USB Data Logger	TECPEL	TR-32	HE17XB2495	N/A	Mar. 09, 2021	Feb. 09, 2022~ Feb. 16, 2022	Mar. 08, 2022	Radiation (03CH07-HY)
EMI Test Receiver	Agilent	N9038A(MXE)	MY53290053	20Hz~26.5GHz	May 24, 2021	Feb. 09, 2022~ Feb. 16, 2022	May 23, 2022	Radiation (03CH07-HY)

5. Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (9 kHz ~ 30 MHz)

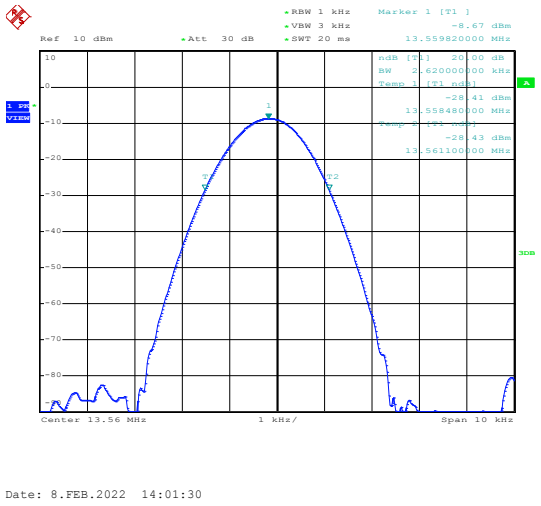
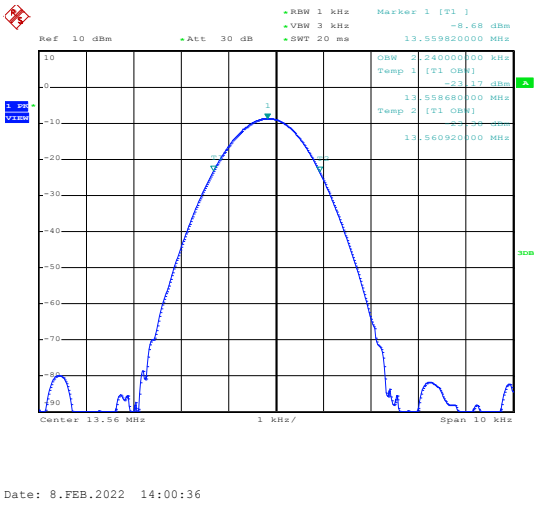
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.7 dB**

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.1 dB**

Appendix A. Test Results of RF Near Field Test Items

A1. Test Result of 20dB Spectrum Bandwidth

Test mode	NFC Tx	Test Frequency (MHz)	13.56
			
20dB Bandwidth (kHz)	2.620	**99% OccupiedBW(kHz)**	2.240
Frequency range (MHz)	**f_L > 13.553**	13.55848	**Test Result**
	f_H < 13.567	13.56110	**Complies**

Remark: Because the measured signal is CW adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.

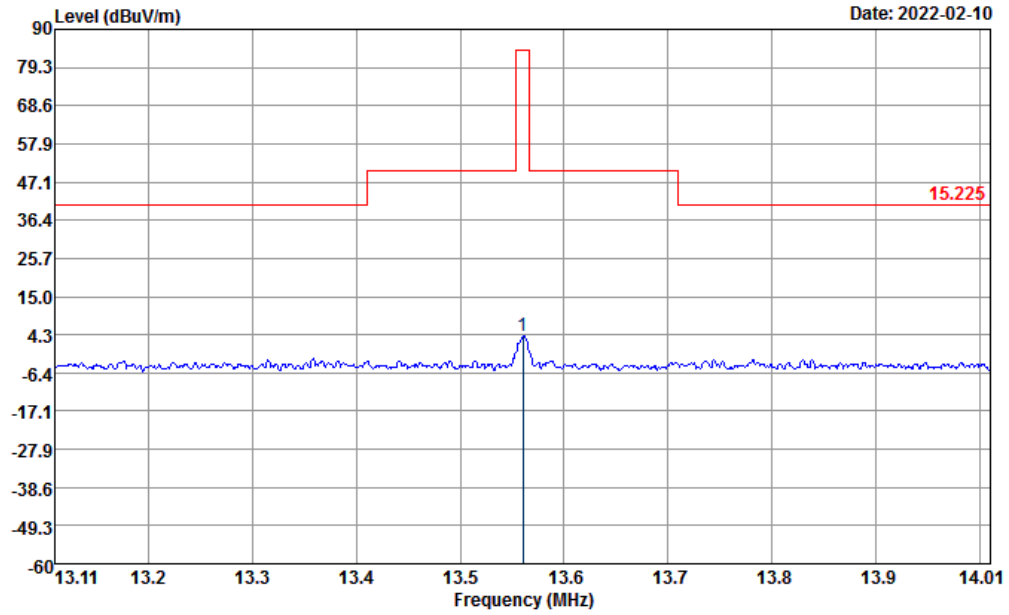
A2. Test Result of Frequency Stability

Voltage vs. Frequency Stability		Temperature vs. Frequency Stability		
Voltage (Vdc)	Measurement Frequency (MHz)	Temperature (℃)	Time	Measurement Frequency (MHz)
3.85	13.559790	**-10**	**0**	13.559840
3.60	13.559800		**2**	13.559840
4.40	13.559790		**5**	13.559840
			10	13.559840
		0	**0**	13.559800
			2	13.559800
			5	13.559820
			10	13.559810
		10	**0**	13.559800
			2	13.559800
			5	13.559800
			10	13.559800
		20	**0**	13.559790
			2	13.559790
			5	13.559790
			10	13.559790
		30	**0**	13.559820
			2	13.559820
			5	13.559820
			10	13.559820
		40	**0**	13.559800
			2	13.559800
			5	13.559800
			10	13.559800
		45	**0**	13.559780
			2	13.559780
			5	13.559780
			10	13.559780
Max.Deviation (MHz)	-0.000210	**Max.Deviation (MHz)**		-0.000220
Max.Deviation (ppm)	-15.4867	**Max.Deviation (ppm)**		-16.2242
Limit	**FS < ±100 ppm**	**Limit**		**FS < ±100 ppm**
Test Result	**PASS**	**Test Result**		**PASS**

Appendix B. Test Results of Radiated Test Items

B1. Test Result of Field Strength of Fundamental Emissions

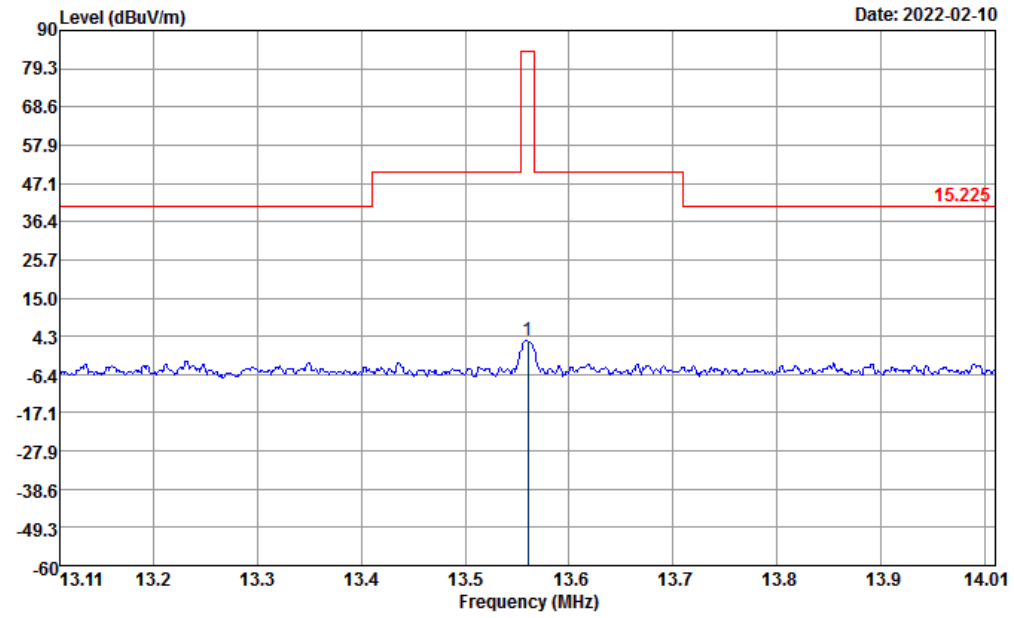
Test Mode :	NFC Tx	Test Frequency (MHz)	13.56



Site : 03CH07-HY
Condition : 15.225 3m LOOP_ANT(H)_100315 HORIZONTAL
: RBW:9.000KHz VBW:9.000KHz SWT:Auto

Frequency (MHz)	Level (dBµV/m)	Distance extrapolation Factor (dB)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
13.56	3.77	40	-80.23	84	21.29	21.92	0.56	100	222	QP

Test Mode :	NFC Tx	Test Frequency (MHz)	13.56



Site : 03CH07-HY
Condition : 15.225 3m LOOP_ANT(V)_100315 VERTICAL
: RBW:9.000KHz VBW:9.000KHz SWT:Auto

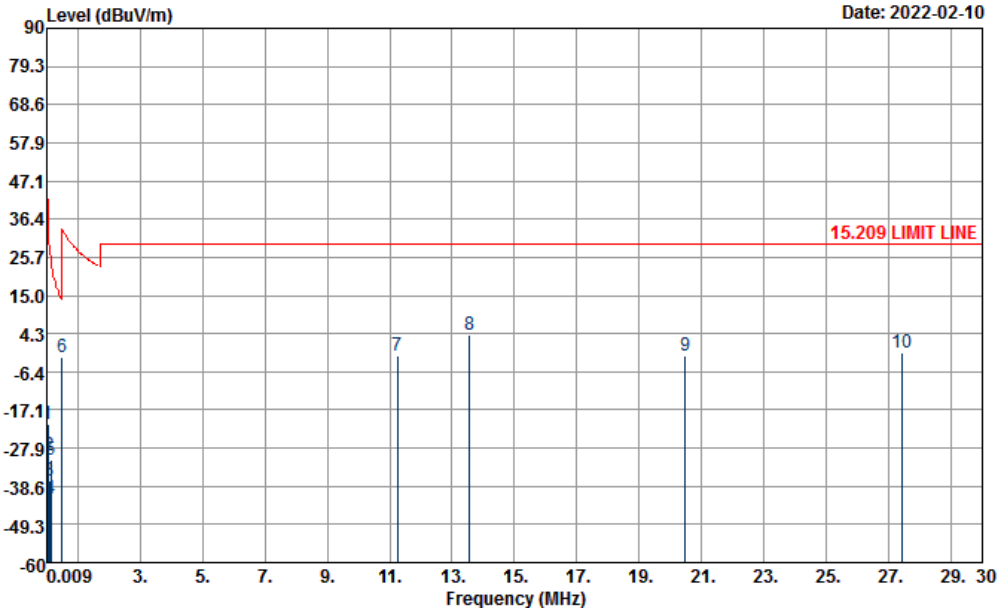
Frequency (MHz)	Level (dBµV/m)	Distance extrapolation Factor (dB)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
13.56	3	40	-81	84	20.52	21.92	0.56	100	343	QP

Note :

1. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)
2. Level = Antenna Factor + Cable Loss + Read Level - Distance extrapolation factor.

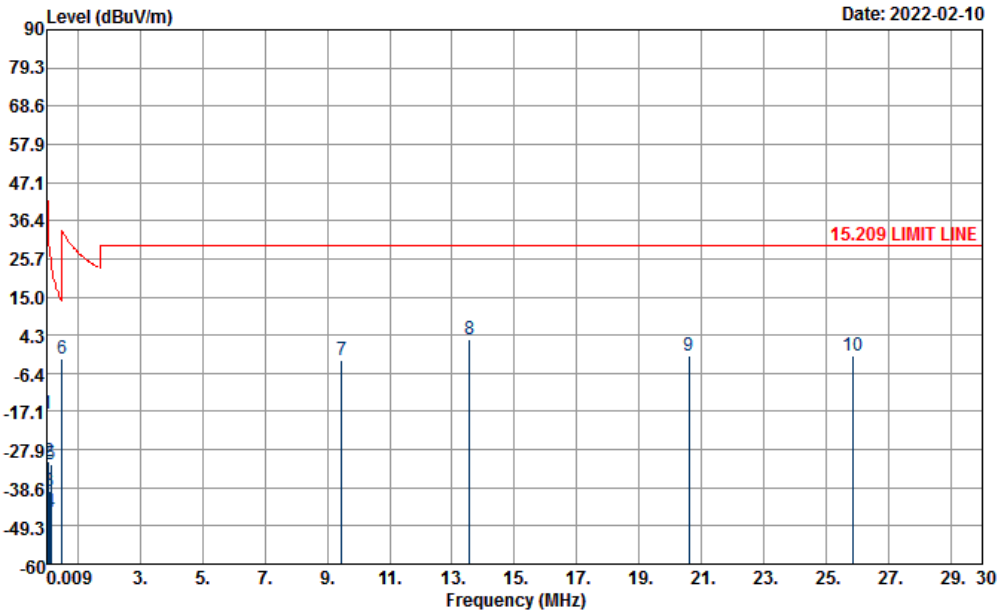
B2. Results of Radiated Spurious Emissions (9 kHz~30MHz)

Test Mode :	NFC Tx	Polarization :	Horizontal



Frequency (MHz)	Level (dBµV/m)	Distance extrapolation Factor (dB)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
0.05011	-20.95	80	-54.56	33.61	39.14	19.7	0.21	-	-	Average
0.06288	-30.12	80	-61.75	31.63	30.25	19.42	0.21	-	-	Average
0.09434	-36.93	80	-65.04	28.11	24.12	18.72	0.23	-	-	QP
0.12552	-42.12	80	-67.75	25.63	18.93	18.69	0.26	-	-	Average
0.15102	-31.14	80	-55.16	24.02	29.79	18.78	0.29	-	-	Average
0.49751	-2.33	40	-36	33.67	17.86	19.4	0.41	-	-	QP
11.256	-1.77	40	-31.27	29.5	15.99	21.71	0.53	-	-	QP
13.56	3.77	40	-25.73	29.5	21.29	21.92	0.56	-	-	QP
20.464	-1.82	40	-31.32	29.5	15.03	22.51	0.64	-	-	QP
27.41	-1.24	40	-30.74	29.5	15.25	22.72	0.79	-	-	QP

Test Mode :	NFC Tx	Polarization :	Vertical



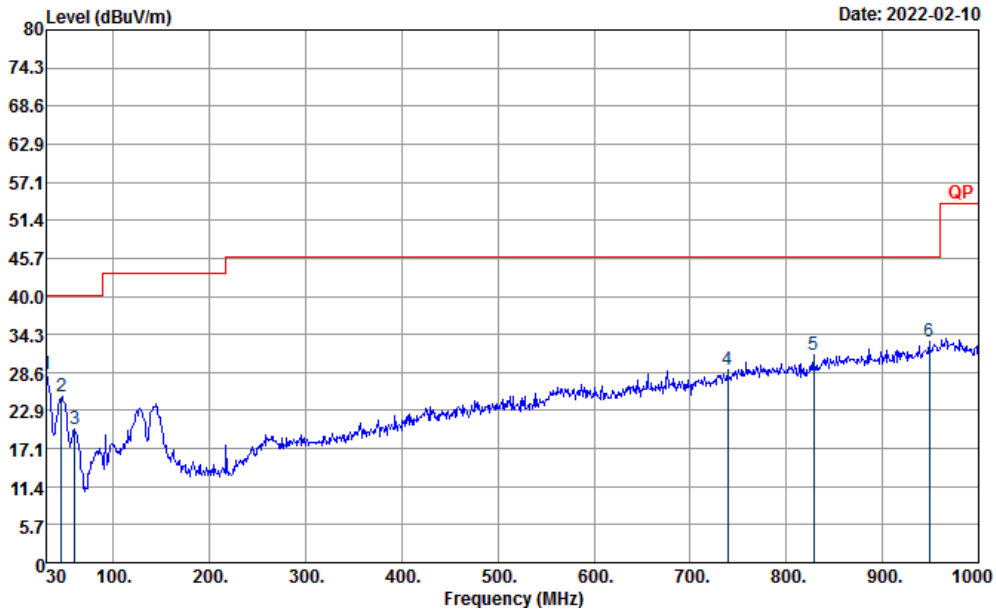
Frequency (MHz)	Level (dBµV/m)	Distance extrapolation Factor (dB)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
0.01252	-17.91	80	-63.56	45.65	43.22	18.68	0.19	-	-	Average
0.0603	-31.02	80	-63.02	32	29.3	19.47	0.21	-	-	Average
0.09414	-39.66	80	-67.79	28.13	21.38	18.73	0.23	-	-	QP
0.12576	-45.26	80	-70.87	25.61	15.79	18.69	0.26	-	-	Average
0.15068	-31.96	80	-56	24.04	28.97	18.78	0.29	-	-	Average
0.49751	-2.52	40	-36.19	33.67	17.67	19.4	0.41	-	-	QP
9.464	-2.69	40	-32.19	29.5	15.43	21.36	0.52	-	-	QP
13.56	3	40	-26.5	29.5	20.52	21.92	0.56	-	-	QP
20.59	-1.49	40	-30.99	29.5	15.34	22.52	0.65	-	-	QP
25.875	-1.45	40	-30.95	29.5	15.14	22.68	0.73	-	-	QP

Note :

1. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
2. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)
3. Level = Antenna Factor + Cable Loss + Read Level - Distance extrapolation factor.
4. 13.56 MHz is fundamental signal which can be ignored

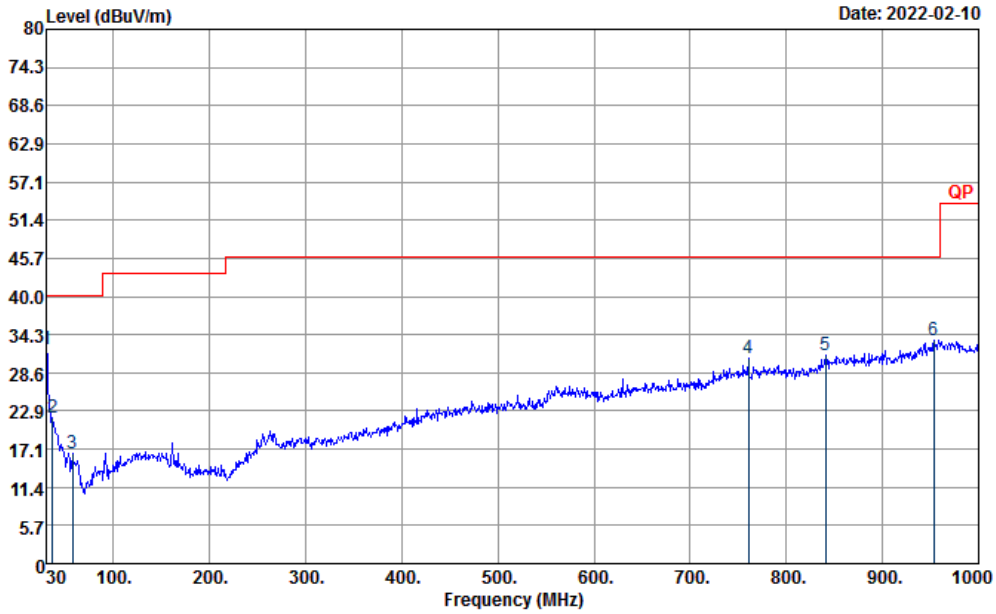
B3. Results of Radiated Spurious Emissions (30MHz~1GHz)

Test Mode :	NFC Tx	Polarization :	Horizontal



Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	28.4	-11.6	40	33.04	24.57	0.9	30.11	-	-	Peak
45.93	24.91	-15.09	40	37.37	16.38	1.21	30.05	-	-	Peak
59.7	19.97	-20.03	40	36.87	11.78	1.36	30.04	-	-	Peak
738.9	29	-17	46	26.84	27.39	4.23	29.46	-	-	Peak
828.5	31.1	-14.9	46	27.98	27.74	4.52	29.14	-	-	Peak
948.9	33.11	-12.89	46	26.66	30.23	4.87	28.65	-	-	Peak

Test Mode :	NFC Tx	Polarization :	Vertical



Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	32.06	-7.94	40	36.7	24.57	0.9	30.11	-	-	Peak
36.48	21.85	-18.15	40	29.63	21.19	1.1	30.07	-	-	Peak
57.27	16.55	-23.45	40	33.14	12.09	1.35	30.03	-	-	Peak
760.6	30.73	-15.27	46	28.11	27.73	4.28	29.39	-	-	Peak
841.1	31.13	-14.87	46	27.2	28.45	4.57	29.09	-	-	Peak
953.1	33.47	-12.53	46	26.77	30.46	4.88	28.64	-	-	Peak

Note:

1. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
2. Emission level (dBµV/m) = 20 log Emission level (µV/m).
3. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor= Level.
4. The emission position marked as "-" means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only.

———THE END———