



FCC EMI TEST REPORT

FCC ID : 2ABOF-GXRN8356910
Equipment : RN system (Multiband)
Brand Name : Tarana
Model Name : GXRN8356910
Marketing Name : RN Product Line
Applicant : Tarana Wireless, Inc.
630 Alder Drive Milpitas, CA 95035
Manufacturer : Tarana Wireless, Inc.
630 Alder Drive Milpitas, CA 95035
Standard : FCC 47 CFR FCC Part 15 Subpart B Class B

The product was received on Jun. 17, 2026 and testing was performed from Jun. 25, 2026 to Jul. 06, 2026. 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 given in ANSI C63.4-2014 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
FC651806	01	Initial issue of report	Aug. 03, 2026



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.107	AC Conducted Emission	Pass	-
3.2	15.109	Radiated Emission	Pass	-

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty".

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Steve Chen

Report Producer: Lili Lu

1. General Description

1.1. Product Feature of Equipment Under Test

Product Feature
General Specs WLAN 2.4G, Proprietary radio 5G / 6G, CBRS and GNSS.

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

1.2. Modification of EUT

No modifications made to the EUT during the testing.

1.3. Test 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. CO05-HY

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No. 03CH10-HY (TAF Code: 3786)
Remark	The Radiated Emission test item subcontracted to Sporton International Inc. Wensan Laboratory

FCC designation No.: TW1093 and TW1132

1.4. Applicable Standards

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

- ♦ FCC 47 CFR FCC Part 15 Subpart B Class B
- ♦ ANSI C63.4a-2017

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2. Test Configuration of Equipment Under Test

2.1. Test Mode

The EUT is tested along with the peripherals, operating under possible configurations in compliant with normal operation. The maximum emissions can be identified by a pre-scan carried out in different orientations of placement pursuant to ANSI C63.4-2014. Frequency range covered: Conduction Emission (150 kHz to 30 MHz), Radiation Emission (30 MHz to the 5th harmonics of the highest fundamental frequency or to 40 GHz, whichever is lower).

Test Items	Functions Enabled
AC Conducted Emission	Mode 1: 2.4G Idle + Charging from POE Mode 2: Proprietary radio 5G / 6G Idle + GPS RX + CBRS idle + Charging from POE
Radiated Emissions	Mode 1: 2.4G Idle + Charging from POE Mode 2: Proprietary radio 5G / 6G Idle + GPS RX + CBRS idle + Charging from POE
Remark: 1. The worst case of AC is mode 1; only the test data of this mode was reported. 2. The worst case of RE is mode 2; only the test data of this mode was reported.	

2.2. Connection Diagram of Test System



2.3. Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	GPS Station	Pendulum	GSG-54	N/A	N/A	Unshielded 1.8m
2.	LCD Monitor	ViewSonic	VS17425	FCC DoC	Shielded 2.0m	Unshielded 1.8m
3.	Mouse	Logitech	B100	FCC DoC	Unshielded 1.5m	N/A
4.	Keyboard	DELL	SK-8120	FCC DoC	Unshielded 1.8m	N/A
5.	PC	DELL	D13M	FCC DoC	N/A	Unshielded 1.8m
6.	PoE Adapter	PHIHONG	POE60U-BTA	N/A	Shielded 1.0m	Unshielded 1.8m

2.4. EUT Operation Test Setup

The EUT is attached to the support Desktop, and the following programs installed in the EUT are programmed during the test:

For Mode 1:

1. EUT links with Desktop Computer and executes ping.
2. Enable the WLAN function for 2.4G idle.

For Mode 2:

1. Execute the command 'cgps' to monitor the EUT receiving continuous signals from the GPS station.
2. EUT links with Desktop Computer and executes ping.
3. Enable the Proprietary radio 5G / 6G function for Proprietary radio 5G / 6G idle.
4. Enable the CBRS function with CBRS idle.

3. Test Result

3.1. Test of AC Conducted Emission Measurement

3.1.1. Limits of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

<Class B>

Frequency of emission (MHz)	Conducted limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

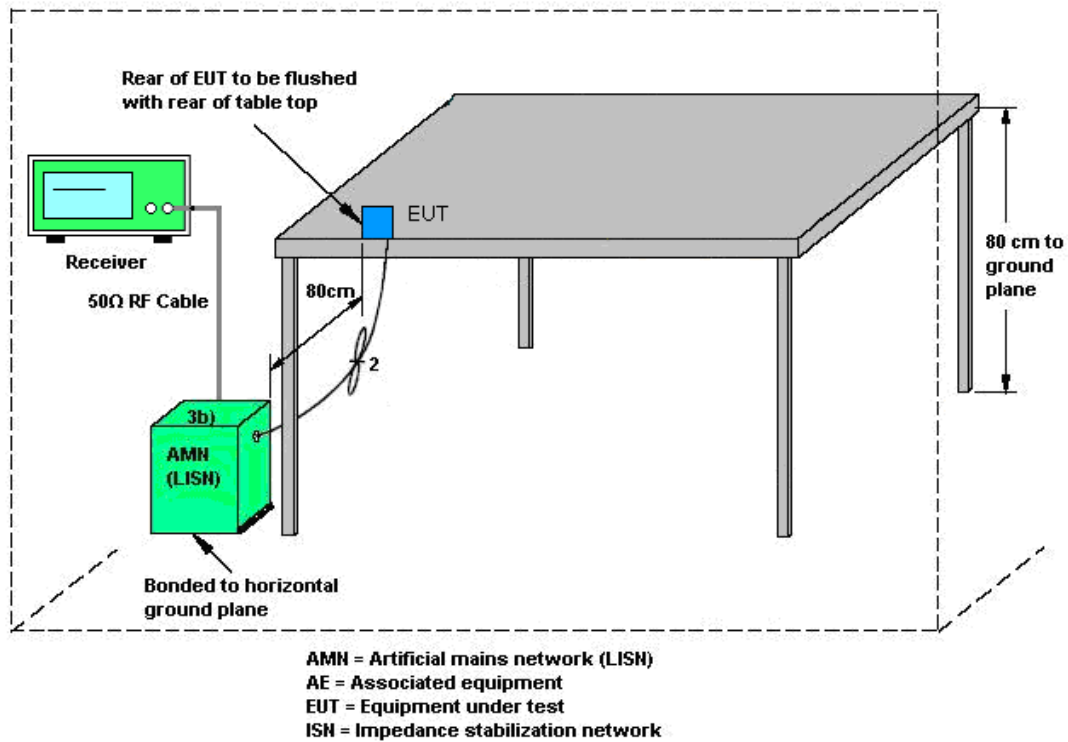
3.1.2. Measuring Instruments

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

3.1.3. Test Procedure

1. The EUT is placed 0.4 meter away from the conducting wall of the shielding room, and is kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN shall be used.
6. Both Line and Neutral shall be tested in order to find out the maximum conducted emission.
7. The frequency range from 150 kHz to 30 MHz is scanned.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (If Bandwidth = 9 kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.1.4. Test Setup



3.1.5. Test Result of AC Conducted Emission

Please refer to Appendix A.

3.2. Test of Radiated Emission Measurement

3.2.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

<Class B>

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

Frequency (MHz)	Field Strength (dBuV/meter)	Measurement Distance (meters)
30 – 230	30	10
230 – 1000	37	10

Frequency (GHz)	Average (dBuV/meter)	Peak (dBuV/meter)
1 to 3	50	70
3 to 6	54	74

Note: Measurement follows the CISPR 22 limit line as below :

15.109 (g) As an alternative to the radiated emission limits shown in paragraphs (a) and (b) of this section, digital devices may be shown to comply with the standards contained in Third Edition of the International Special Committee on Radio Interference (CISPR), Pub. 22, "Information Technology Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurement"

3.2.2. Measuring Instruments

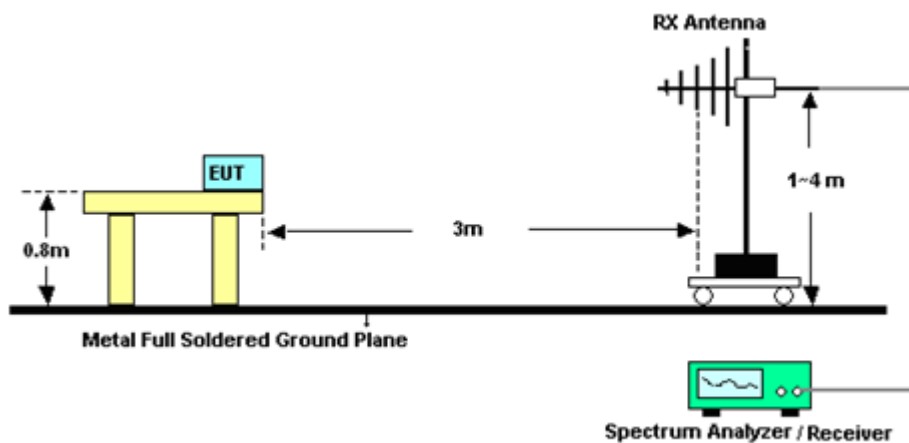
Please refer to the measuring equipment list in this test report.

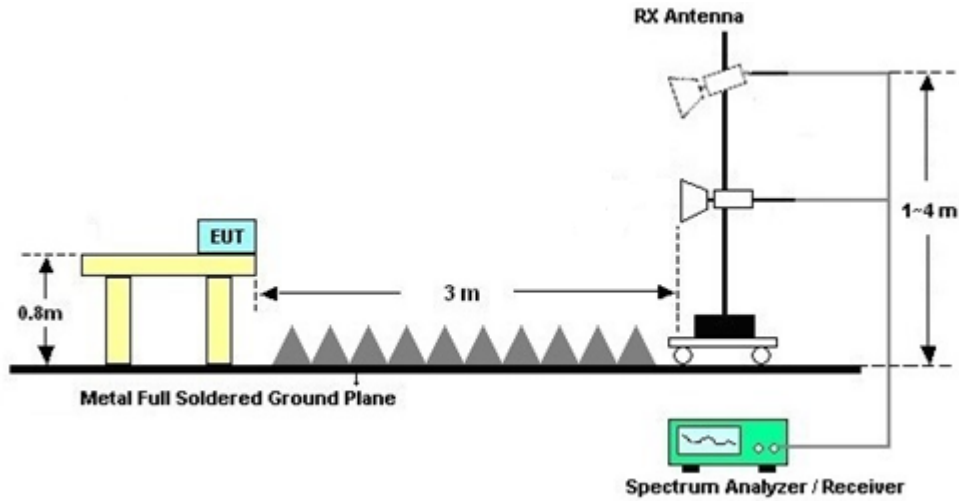
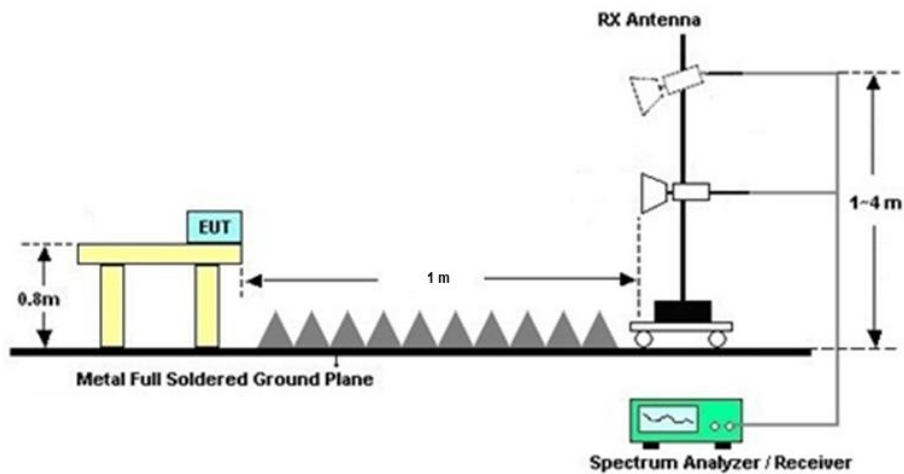
3.2.3. Test Procedures

1. The EUT is placed on a turntable with 0.8 meter above ground.
2. The EUT is set 3 meters from the interference receiving antenna for measured frequency 30MHz~18GHz, which is mounted on the top of a variable height antenna tower.
3. The table is rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a Bi-Log antenna and its height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT is arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode (RBW=120 kHz/VBW=300 kHz for frequency below 1 GHz; RBW=1 MHz VBW=3 MHz (Peak), RBW=1 MHz/VBW=10 Hz (Average) for frequency above 1 GHz).
7. If the emission level of the EUT in peak mode is 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.

3.2.4. Test Setup of Radiated Emission

For Radiated Emissions from 30 MHz to 1 GHz



For Radiated Emissions from 1GHz to 18GHz

For Radiated Emissions above 18GHz

3.2.5. Test Result of Radiated Emission

Please refer to Appendix B.



4. List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jul. 06, 2026	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	N/A	Dec. 16, 2025	Jul. 06, 2026	Dec. 15, 2026	Conduction (CO05-HY)
Hygrometer	TECPEL	DTM-303A	TP210031	N/A	Jun. 15, 2026	Jul. 06, 2026	Jun. 14, 2027	Conduction (CO05-HY)
Two-Line V-Network	Rohde & Schwarz	ENV 216 +EMCI-EXP-US-US S	100080+N-021	N/A	Apr. 22, 2026	Jul. 06, 2026	Apr. 21, 2027	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32	N/A	N/A	N/A	Jul. 06, 2026	N/A	Conduction (CO05-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	00691	N/A	Jul. 29, 2025	Jul. 06, 2026	Jul. 28, 2026	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	MQT24082501	N/A	Oct. 14, 2025	Jul. 06, 2026	Oct. 13, 2026	Conduction (CO05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jul. 06, 2026	N/A	Conduction (CO05-HY)
Amplifier	SONOMA	310N	187311	9kHz~1GHz	Oct. 13, 2025	Jun. 25, 2026~Jun. 26, 2026	Oct. 12, 2026	Radiation (03CH10-HY)
Bilog Antenna	TESEQ	CBL 6111D & VFA_Z-04002-N-06	35413 & 01	30MHz~1GHz	May.27, 2026	Jun. 25, 2026~Jun. 26, 2026	May.26, 2027	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1325	1GHz~18GHz	Oct. 28, 2025	Jun. 25, 2026~Jun. 26, 2026	Oct. 27, 2026	Radiation (03CH10-HY)
Preamplifier	Jet-Power	JAP00101800-30-10P	160118550004	1GHz~18GHz	Feb. 24, 2026	Jun. 25, 2026~Jun. 26, 2026	Feb. 23, 2027	Radiation (03CH10-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Jun. 25, 2026~Jun. 26, 2026	N/A	Radiation (03CH10-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Jun. 25, 2026~Jun. 26, 2026	N/A	Radiation (03CH10-HY)
Turn Table	EMEC	TT 2200	N/A	0~360 Degree	N/A	Jun. 25, 2026~Jun. 26, 2026	N/A	Radiation (03CH10-HY)
Software	Audix	E3 6.2009-8-24	RK-001042	N/A	N/A	Jun. 25, 2026~Jun. 26, 2026	N/A	Radiation (03CH10-HY)
EMI Test Receiver	Agilent	N9038A	MY59053012	3Hz~26.5GHz	Nov. 13, 2025	Jun. 25, 2026~Jun. 26, 2026	Nov. 22, 2026	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	519226/2, 804014/2, 804026/2	30MHz~40GHz	Oct. 28, 2025	Jun. 25, 2026~Jun. 26, 2026	Oct. 27, 2026	Radiation (03CH10-HY)
Spectrum Analyzer	Keysight	N9010B	MY60241058	10Hz~44GHz	Jul. 15, 2025	Jun. 25, 2026~Jun. 26, 2026	Jul. 14, 2026	Radiation (03CH10-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	1223	18GHz~40GHz	Jul. 02, 2025	Jun. 25, 2026~Jun. 26, 2026	Jul. 01, 2026	Radiation (03CH10-HY)
Preamplifier	EMEC	EM18G40G	060873	18GHz~40GHz	Aug. 26, 2025	Jun. 25, 2026~Jun. 26, 2026	Aug. 25, 2026	Radiation (03CH10-HY)

5. Measurement Uncertainty

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.70 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	6.50 dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 6000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.40 dB
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Uncertainty of Radiated Emission Measurement (6000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.20 dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.40 dB
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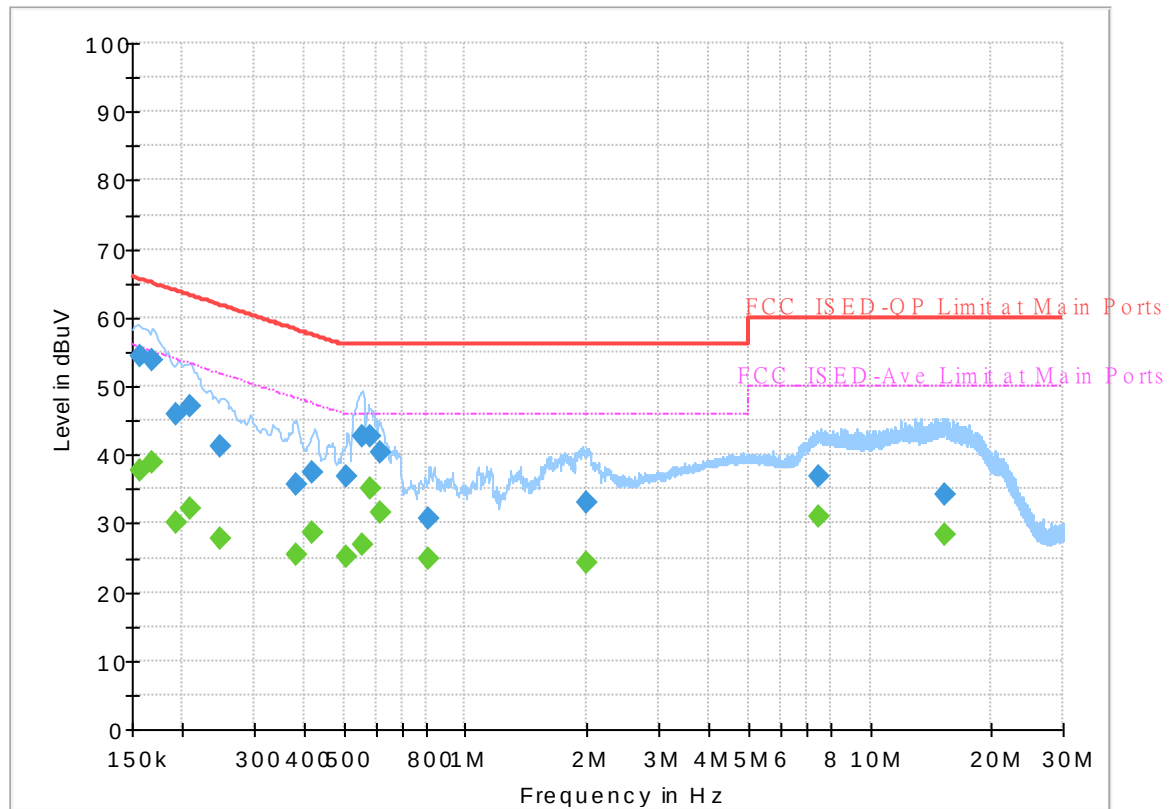
Appendix A. AC Conducted Emission Test Results

Test Engineer :	Calvin Wang	Temperature :	23 ~ 26℃
		Relative Humidity :	45 ~ 55%

EUT Information

Report NO : 651806
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Line

Full Spectrum



Final Result

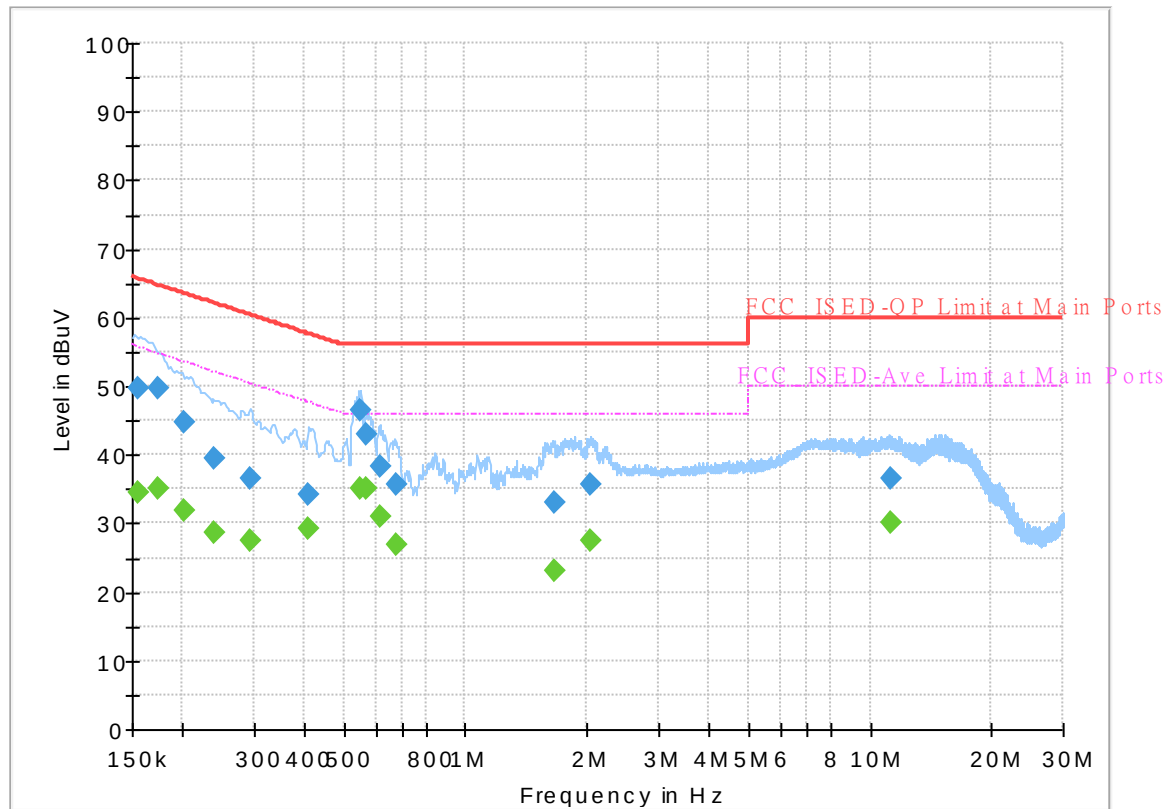
Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.156750	---	37.73	55.63	17.90	L1	OFF	19.9
0.156750	54.35	---	65.63	11.28	L1	OFF	19.9
0.168000	---	38.82	55.06	16.24	L1	OFF	19.9
0.168000	53.83	---	65.06	11.23	L1	OFF	19.9
0.192750	---	30.21	53.92	23.71	L1	OFF	19.9
0.192750	46.04	---	63.92	17.88	L1	OFF	19.9
0.208500	---	32.27	53.27	21.00	L1	OFF	19.9
0.208500	47.04	---	63.27	16.23	L1	OFF	19.9
0.246750	---	27.65	51.87	24.22	L1	OFF	19.9
0.246750	41.28	---	61.87	20.59	L1	OFF	19.9
0.384000	---	25.48	48.19	22.71	L1	OFF	19.9
0.384000	35.75	---	58.19	22.44	L1	OFF	19.9
0.420000	---	28.75	47.45	18.70	L1	OFF	19.9
0.420000	37.49	---	57.45	19.96	L1	OFF	19.9
0.510000	---	25.02	46.00	20.98	L1	OFF	19.9
0.510000	36.78	---	56.00	19.22	L1	OFF	19.9
0.557250	---	27.01	46.00	18.99	L1	OFF	19.9
0.557250	42.78	---	56.00	13.22	L1	OFF	19.9
0.584250	---	35.21	46.00	10.79	L1	OFF	19.9
0.584250	42.83	---	56.00	13.17	L1	OFF	19.9
0.615750	---	31.48	46.00	14.52	L1	OFF	19.9

0.615750	40.46	---	56.00	15.54	L1	OFF	19.9
0.813750	---	24.84	46.00	21.16	L1	OFF	19.9
0.813750	30.66	---	56.00	25.34	L1	OFF	19.9
1.992750	---	24.32	46.00	21.68	L1	OFF	20.0
1.992750	32.93	---	56.00	23.07	L1	OFF	20.0
7.509750	---	30.91	50.00	19.09	L1	OFF	20.3
7.509750	36.76	---	60.00	23.24	L1	OFF	20.3
15.335250	---	28.50	50.00	21.50	L1	OFF	20.8
15.335250	34.24	---	60.00	25.76	L1	OFF	20.8

EUT Information

Report NO : 651806
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Neutral

Full Spectrum

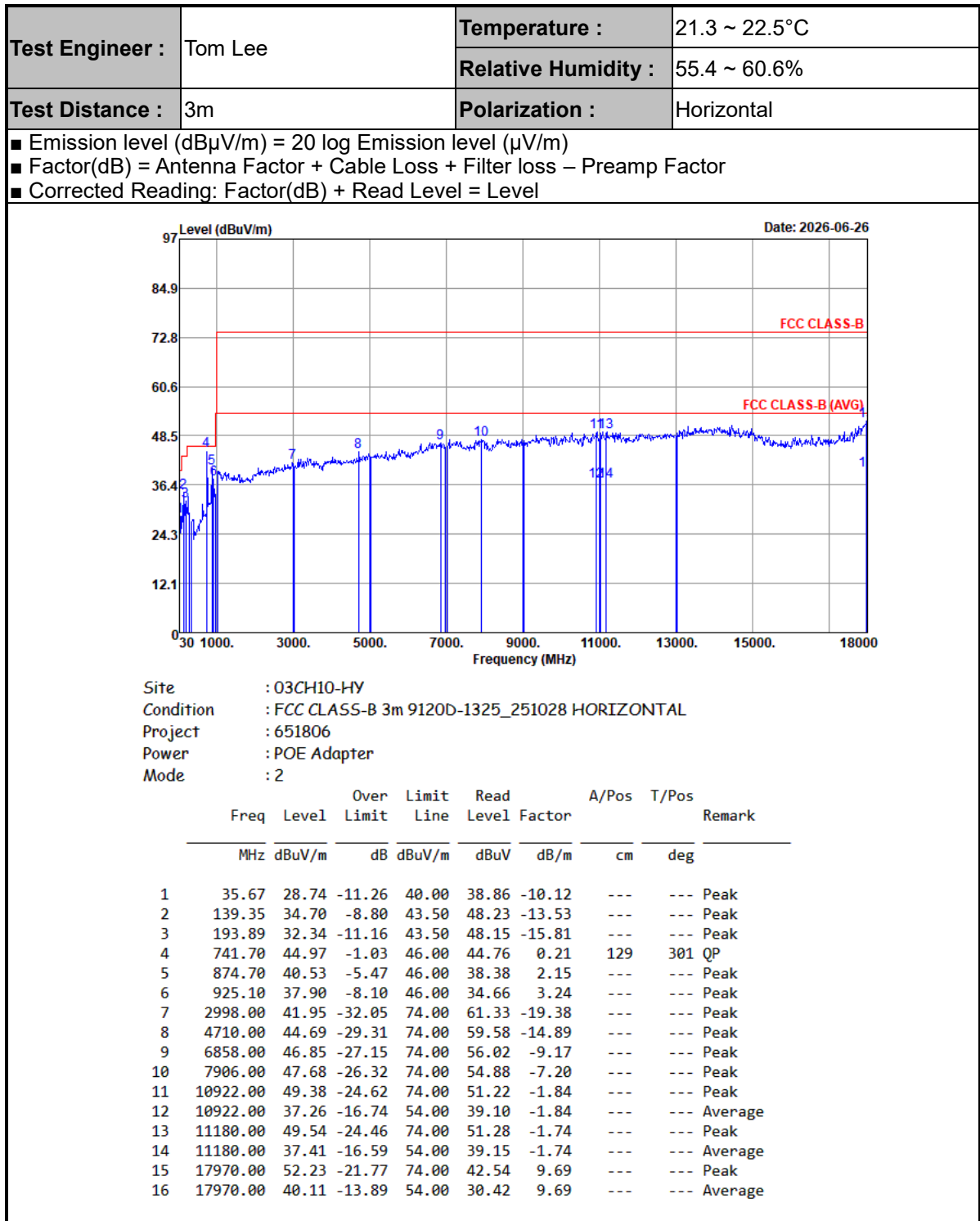


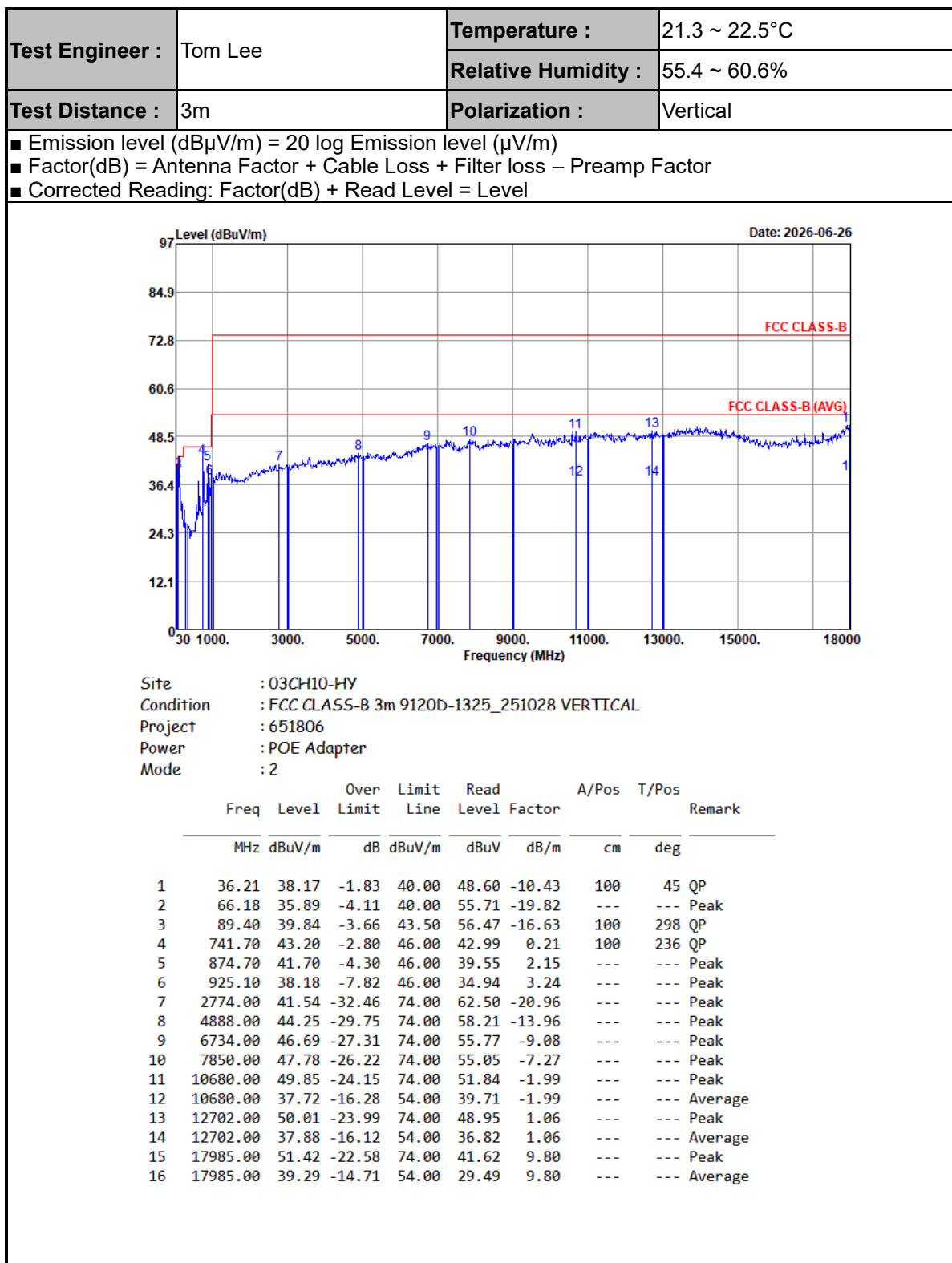
Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.154500	---	34.56	55.75	21.19	N	OFF	19.9
0.154500	49.67	---	65.75	16.08	N	OFF	19.9
0.174750	---	35.03	54.73	19.70	N	OFF	19.9
0.174750	49.66	---	64.73	15.07	N	OFF	19.9
0.201750	---	31.76	53.54	21.78	N	OFF	19.9
0.201750	44.63	---	63.54	18.91	N	OFF	19.9
0.240000	---	28.73	52.10	23.37	N	OFF	19.9
0.240000	39.40	---	62.10	22.70	N	OFF	19.9
0.294000	---	27.37	50.41	23.04	N	OFF	19.9
0.294000	36.45	---	60.41	23.96	N	OFF	19.9
0.411000	---	29.23	47.63	18.40	N	OFF	19.9
0.411000	34.15	---	57.63	23.48	N	OFF	19.9
0.550500	---	35.00	46.00	11.00	N	OFF	19.9
0.550500	46.42	---	56.00	9.58	N	OFF	19.9
0.570750	---	35.04	46.00	10.96	N	OFF	19.9
0.570750	42.99	---	56.00	13.01	N	OFF	19.9
0.613500	---	30.86	46.00	15.14	N	OFF	19.9
0.613500	38.40	---	56.00	17.60	N	OFF	19.9
0.672000	---	26.87	46.00	19.13	N	OFF	19.9
0.672000	35.62	---	56.00	20.38	N	OFF	19.9
1.653000	---	23.05	46.00	22.95	N	OFF	20.0

1.653000	32.96	---	56.00	23.04	N	OFF	20.0
2.031000	---	27.54	46.00	18.46	N	OFF	20.0
2.031000	35.78	---	56.00	20.22	N	OFF	20.0
11.278500	---	30.19	50.00	19.81	N	OFF	20.7
11.278500	36.52	---	60.00	23.48	N	OFF	20.7

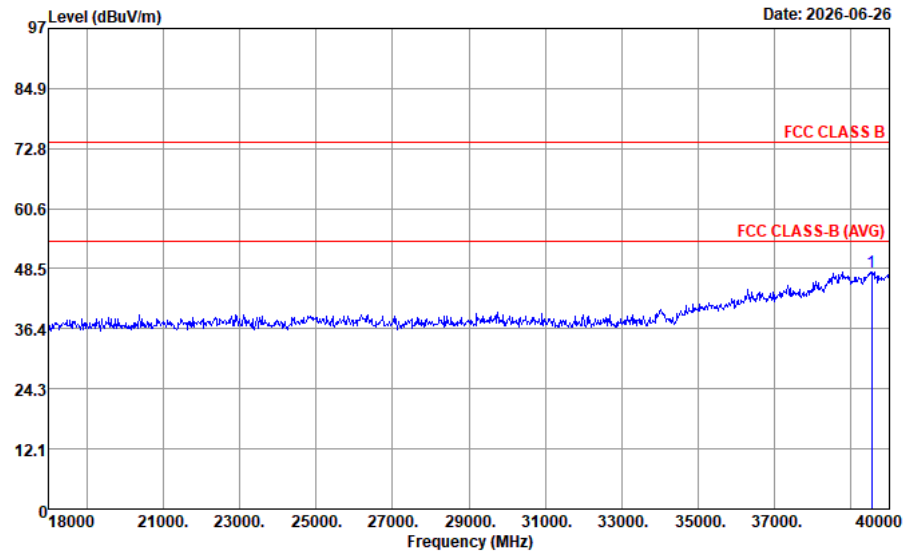
Appendix B. Radiated Emission Test Result





Test Engineer :	Tom Lee	Temperature :	21.3 ~ 22.5°C
		Relative Humidity :	55.4 ~ 60.6%
Test Distance :	3m	Polarization :	Horizontal

- Emission level (dBμV/m) = 20 log Emission level (μV/m)
- Factor(dB) = Antenna Factor + Cable Loss + Filter loss – Preamp Factor
- Corrected Reading: Factor(dB) + Read Level = Level



Site : 03CH10-HY
 Condition : FCC CLASS B 1m SHF_1223_250702 HORIZONTAL
 Project : 651806
 Power : POE Adpater
 Mode : 2

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	cm	deg	
1	39538.00	47.84	-26.16	74.00	39.35	8.49	---	---	Peak

