

Test Report No:
25B0740R-RFUSV01S-D

TEST REPORT

FCC Rules & Regulations

Product Name	Farmfit Unity
Brand Name	Farmfit LLC
Model No.	FFUNITY1915, FCUNITY1915
FCC ID	2BEWM-FFUNITY1915
Contains FCC ID	MCQ-XBEE3, SH6MDBT50Q
Applicant's Name / Address	Farmfit LLC 22575 State Hwy 6 South, Navasota, Texas 77868, United States
Manufacturer's Name	Farmfit LLC
Test Method Requested, Standard	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Verdict Summary	IN COMPLIANCE
Documented by Jinn Chen	
Approved by Alan Chen	
Date of Receipt	2025/11/26
Date of Issue	2026/03/19
Report Version	V1.0

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Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

General Conditions

1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	2026/03/19

Summary of Test Result

Report Clause	Test Items	Result (PASS/FAIL)	Remark
3	AC Power Line Conducted Emission	PASS	-
4	6dB Bandwidth	PASS	-
5	Maximum Peak Conducted Output Power	PASS	-
6	Power Spectral Density	PASS	-
7	Antenna Port Conducted Emission	PASS	-
8	Radiated Emission	PASS	-

Comments and Explanations

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1. General Information

1.1. EUT Description

Frequency Range	902~ 928 MHz
Operating Frequency / Channel Number	907.065 ~ 926.901 MHz / 201 Channels
Type of Modulation	GFSK

Accessories Information					
No.	Equipment Name	Brand Name	Model No.	Rating	Remark
1	Power Supply	Mean Well	OWA-60U-12	Input: 100-240Vac 1.2A 50/60Hz Output: +12Vdc ---5.0A	With power cable: Non-shielded, 1.5m

The difference for each model is shown as below:

Model No.	Ethernet	Serial ports
FFUNITY1915	V	V
FCUNITY1915	X	X

From the above models, model: FFUNITY1915 was selected as representative model for the test and its data was recorded in this report.

(V = Configured, X = Not Configured)

Antenna Information				
Item.	Brand Name	Part No.	Type	Gain (dBi)
1	L-Com	HG908P	Panel	8.00
2	Pulse Electronics	W1063	Dipole	1.00

Note: The antenna of EUT conforms to FCC 15.203.

Working Frequency of Each Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
50	907.065	101	912.123	152	917.182	203	922.240
51	907.164	102	912.222	153	917.281	204	922.339
52	907.263	103	912.322	154	917.380	205	922.438
53	907.363	104	912.421	155	917.479	206	922.537
54	907.462	105	912.520	156	917.578	207	922.637
55	907.561	106	912.619	157	917.677	208	922.736
56	907.660	107	912.718	158	917.777	209	922.835
57	907.759	108	912.818	159	917.876	210	922.934
58	907.858	109	912.917	160	917.975	211	923.033
59	907.958	110	913.016	161	918.074	212	923.132
60	908.057	111	913.115	162	918.173	213	923.232
61	908.156	112	913.214	163	918.273	214	923.331
62	908.255	113	913.313	164	918.372	215	923.430
63	908.354	114	913.413	165	918.471	216	923.529
64	908.454	115	913.512	166	918.570	217	923.628
65	908.553	116	913.611	167	918.669	218	923.728
66	908.652	117	913.710	168	918.768	219	923.827
67	908.751	118	913.809	169	918.868	220	923.926
68	908.850	119	913.909	170	918.967	221	924.025
69	908.949	120	914.008	171	919.066	222	924.124
70	909.049	121	914.107	172	919.165	223	924.223
71	909.148	122	914.206	173	919.264	224	924.323
72	909.247	123	914.305	174	919.364	225	924.422
73	909.346	124	914.404	175	919.463	226	924.521
74	909.445	125	914.504	176	919.562	227	924.620
75	909.545	126	914.603	177	919.661	228	924.719
76	909.644	127	914.702	178	919.760	229	924.819
77	909.743	128	914.801	179	919.859	230	924.918
78	909.842	129	914.900	180	919.959	231	925.017
79	909.941	130	915.000	181	920.058	232	925.116
80	910.040	131	915.099	182	920.157	233	925.215
81	910.140	132	915.198	183	920.256	234	925.314
82	910.239	133	915.297	184	920.355	235	925.414
83	910.338	134	915.396	185	920.455	236	925.513

Working Frequency of Each Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
84	910.437	135	915.495	186	920.554	237	925.612
85	910.536	136	915.595	187	920.653	238	925.711
86	910.636	137	915.694	188	920.752	239	925.810
87	910.735	138	915.793	189	920.851	240	925.910
88	910.834	139	915.892	190	920.950	241	926.009
89	910.933	140	915.991	191	921.050	242	926.108
90	911.032	141	916.091	192	921.149	243	926.207
91	911.131	142	916.190	193	921.248	244	926.306
92	911.231	143	916.289	194	921.347	245	926.405
93	911.330	144	916.388	195	921.446	246	926.505
94	911.429	145	916.487	196	921.546	247	926.604
95	911.528	146	916.586	197	921.645	248	926.703
96	911.627	147	916.686	198	921.744	249	926.802
97	911.727	148	916.785	199	921.843	250	926.901
98	911.826	149	916.884	200	921.942	-	-
99	911.925	150	916.983	201	922.041	-	-
100	912.024	151	917.082	202	922.141	-	-

1.2. EUT Information

EUT Power Type	From Adapter / PoE
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1.3. Testing Location Information

USA	FCC Designation Number: TW0033 / FCC Registration Number: 647365
Canada	CAB Identifier Number: TW3023 / Company Number: 26930

Site Description	Accredited by TAF
	Accredited Number: 3023

Test Laboratory	DEKRA Testing and Certification Co., Ltd.
	Linkou Laboratory
Address	No. 85, Wenlin St., Linkou Dist., New Taipei City 244017, Taiwan, R.O.C.
Performed Location	No. 26, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan, R.O.C.
Phone Number	+886-3-275-7255
Fax Number	+886-3-327-8031

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual	Test Date	Tested By
AC Power Line	Temperature (°C)	10~40 °C	18.2~20.5°C	2025/12/24 ~ 2026/01/08	Neko Chen
Conducted Emission	Humidity (%RH)	10~90 %	59.7~65.2 %		
RF Conducted Emission	Temperature (°C)	10~40 °C	17.3~25.2 °C	2025/11/26~ 2026/01/09	Kevin Lai
	Humidity (%RH)	10~90 %	52.4~61.6 %		
Radiated Emission	Temperature (°C)	10~40 °C	17.3~19.2 °C	2025/12/19 ~ 2025/12/27	Rock Liang
	Humidity (%RH)	10~90 %	65.8~66.5 %		Ashton Chiu

1.4. Measurement Uncertainty

Uncertainties have been calculated according to the DEKRA internal document.

The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test item	Uncertainty
AC Power Line Conducted Emission	± 3.50 dB
6dB Bandwidth	± 1580.61 Hz
Maximum Peak Conducted Output Power	Spectrum Analyzer: ± 2.13 dB Power Meter: ± 1.05 dB
Power Spectral Density	± 2.13 dB
Antenna Port Conducted Emission	± 2.13 dB
Radiated Emission	9 kHz~30 MHz: ± 3.30 dB 30 MHz~1 GHz: ± 5.19 dB 1 GHz~18 GHz: ± 4.46 dB 18 GHz~40 GHz: ± 4.19 dB
Duty Cycle	± 0.62 %

1.5. List of Test Equipment

For Conduction Measurements / HY-SR01

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
V	EMI Test Receiver	R&S	ESR7	101601	2025/04/28	2026/04/27
V	Two-Line V-Network	R&S	ENV216	101306	2024/04/01	2026/03/31
V	Two-Line V-Network	R&S	ENV216	101307	2025/08/06	2027/08/05
V	Coaxial Cable	SUHNER	RG400_BNC	RF001	2025/01/10	2026/01/09

Note:

1. Two-Line V-Network is calibrated every two years, the other equipment is calibrated every year.
2. The test instruments marked with "V" are used to measure the final test results.
3. Test Software Version: e3 230303 dekra V9.

For Conducted Measurements / HY-SR02

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
V	Spectrum Analyzer	R&S	FSV30	103467	2025/05/29	2026/05/28
V	Spectrum Analyzer	KEYSIGHT	N9010A	MY54510317	2025/08/04	2026/08/03
V	Peak Power Analyzer	KEYSIGHT	8990B	MY51000539	2025/05/05	2026/05/04
V	Wideband Power Sensor	KEYSIGHT	N1923A	MY59240002	2025/05/07	2026/05/06
V	Wideband Power Sensor	KEYSIGHT	N1923A	MY59240003	2025/05/07	2026/05/06

Note:

1. All equipment is calibrated every year.
2. The test instruments marked with "V" are used to measure the final test results.
3. Test Software Version : DTC_RF_Tool_Release V2.0.37

For Radiated Measurements /HY-CB03

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
V	Loop Antenna	TESEQ	HLA6121	49611	2025/02/18	2026/02/17
V	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-0675	2025/08/14	2027/08/13
	Horn Antenna	Com-Power	AH-840	101100	2025/10/07	2027/10/06
V	Horn Antenna	RF SPIN	DRH18-E	210507A18ES	2024/05/15	2026/05/14
V	Pre-Amplifier	SGH	SGH0301-9	20211007-11	2025/01/10	2026/01/09
V	Pre-Amplifier	SGH	PRAMP118	20200701	2025/01/10	2026/01/09
	Pre-Amplifier	EMCI	EMC184045SE	980369	2025/01/10	2026/01/09
	Coaxial Cable	EMCI	EMC102-KM-KM-600	1160311	2025/01/10	2026/01/09
	Coaxial Cable	EMCI	EMC102-KM-KM-7000	170242	2025/01/10	2026/01/09
V	Filter	MICRO TRONICS	HPM50108	G525	2025/01/05	2026/01/04
V	EMI Test Receiver	R&S	ESR3	102793	2025/12/01	2026/11/30
V	Spectrum Analyzer	R&S	FSV3044	101114	2025/02/26	2026/02/25
V	Coaxial Cable	SGH	SGH18	2021005-1	2025/01/10	2026/01/09
V	Coaxial Cable	SGH	SGH18	202108-4	2025/01/10	2026/01/09
V	Coaxial Cable	SGH	HA800	GD20110223-1	2025/01/10	2026/01/09
V	Coaxial Cable	SGH	HA800	GD20110222-8	2025/01/10	2026/01/09

Note:

1. Bi-Log Antenna and Horn Antenna are calibrated every two years, the other equipment is calibrated every year.
2. The test instruments marked with "V" are used to measure the final test results.
3. Test Software Version: e3 230303 dekra V9.

2. Test Configuration of EUT

2.1. Test Condition

EUT Operational Condition	
Testing Voltage	AC 120V/60Hz by Adapter / DC 48V by PoE

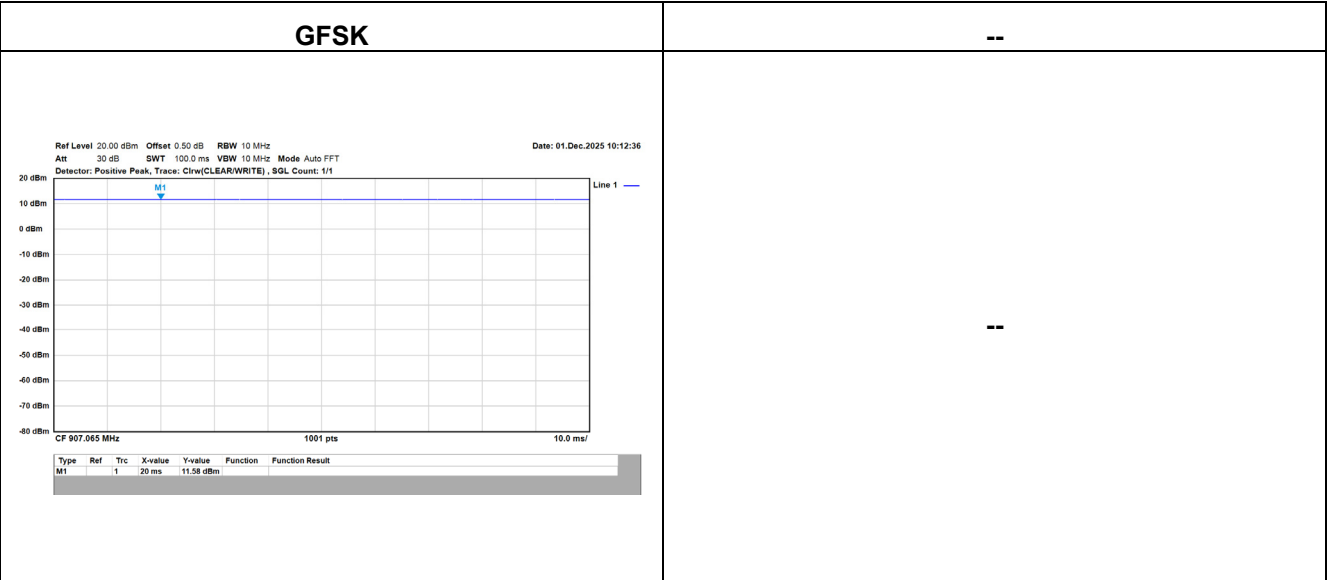
2.2. Test Frequency Mode

Test Software Version	Tera Term / Version 4.106
-----------------------	---------------------------

Modulation	Frequency (MHz)	Power Setting
GFSK	907.065	14
	916.983	14
	926.901	14

2.3. Duty Cycle

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	VBW (Hz)
GFSK	--	--	100%	0.00	10



2.4. Measurement Configuration

Test Mode	Mode 1 (Transmit)	GFSK
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Note:

1. Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. For radiated emissions below 1 GHz and AC power line conducted emissions, all modes of operation were investigated, and the worst-case emissions are reported.
3. The radiation measurements are performed in the X, Y, and Z axis positions. Only the worst case is shown in the report.

2.5. Tested System Details

For Adapter

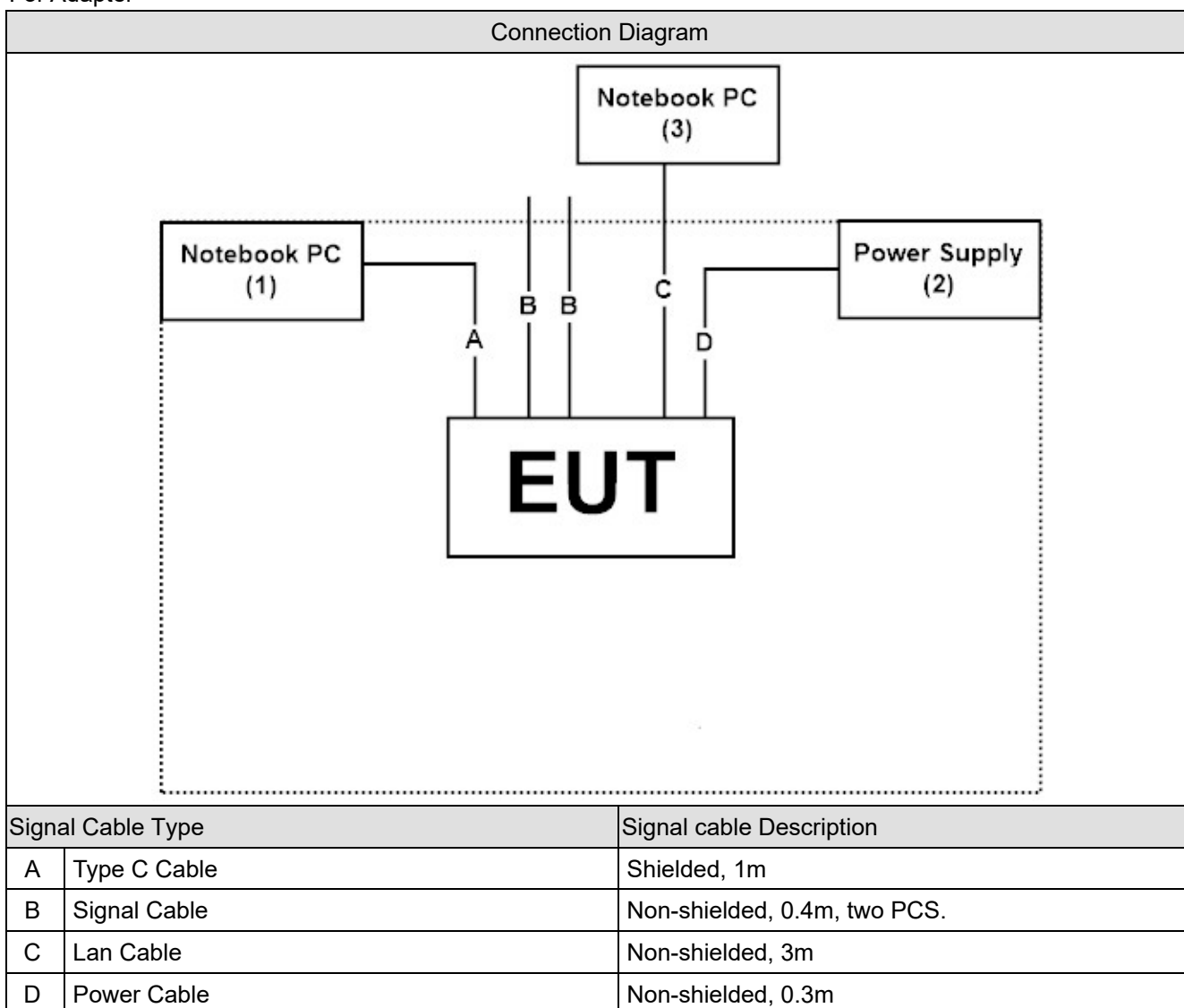
No.	Equipment	Brand Name	Model No.	Serial No.	Power Cord
1	Notebook PC	ASUS	P5430U	G8NXC07J11032C	N/A
2	Power Supply	Mean Well	OWA-60U-12	N/A	N/A
3	Notebook PC	DELL	Latitude 5501	GS9GL13	N/A

For PoE

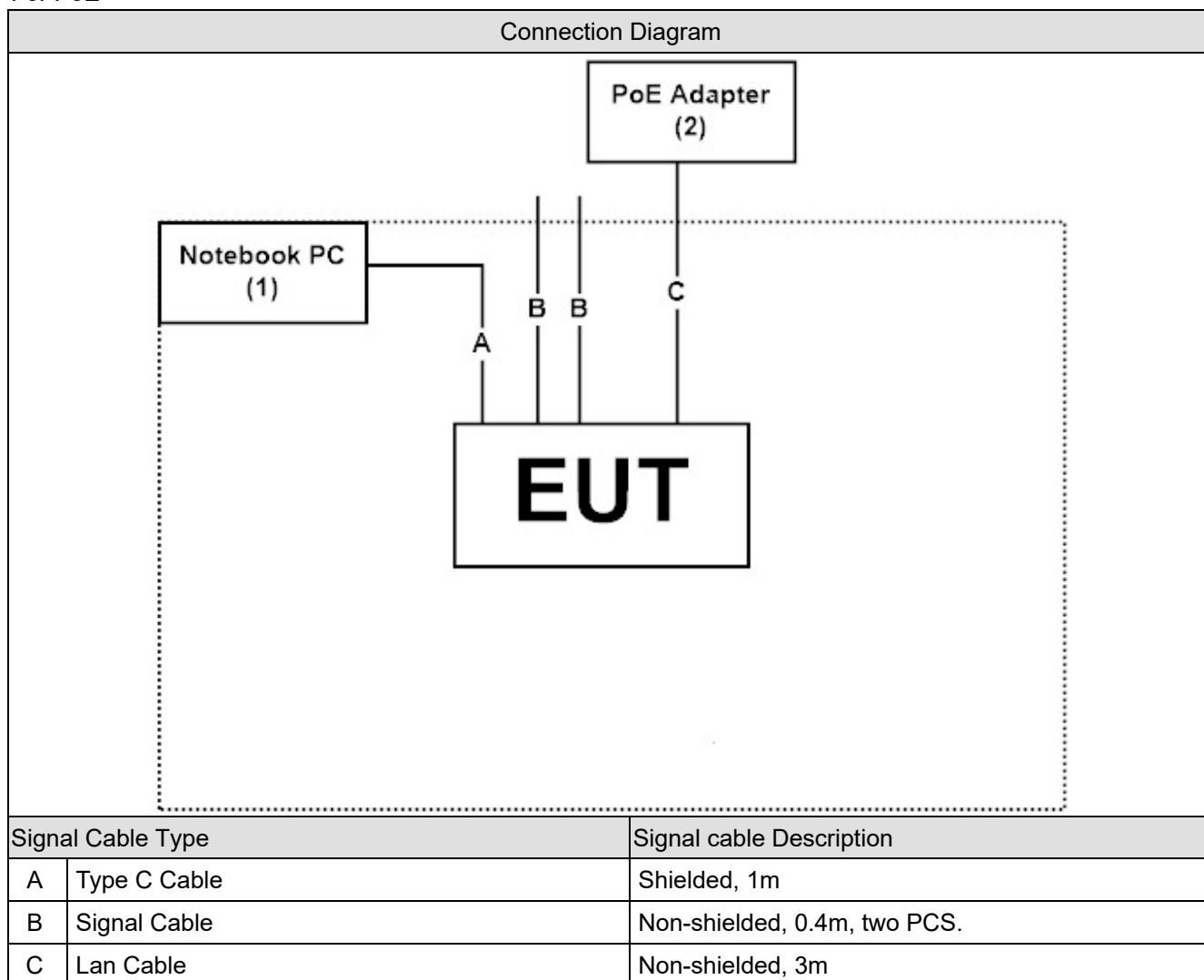
No.	Equipment	Brand Name	Model No.	Serial No.	Power Cord
1	Notebook PC	ASUS	P5430U	G8NXC07J11032C	N/A
2	PoE Adapter	CERIO	POE-S48V2	A1BWIG00034	N/A

2.6. Configuration of Tested System

For Adapter



For PoE

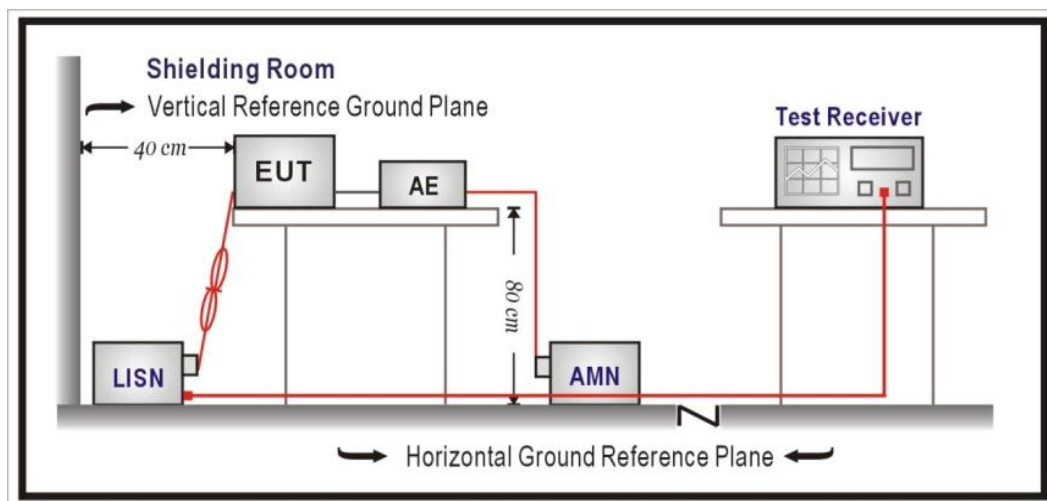


2.7. EUT Operating Procedures

1.	Setup the EUT as shown in Section 2.6.
2.	Execute software "Tera Term / Version 4.106" on the Notebook PC.
3.	Configure the test mode, the test channel, and the data rate.
4.	Verify that the EUT works properly.

3. AC Power Line Conducted Emission

3.1. Test Setup



3.2. Test Limit

Frequency (MHz)	QP (dB μ V)	AV (dB μ V)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

3.3. Test Procedure

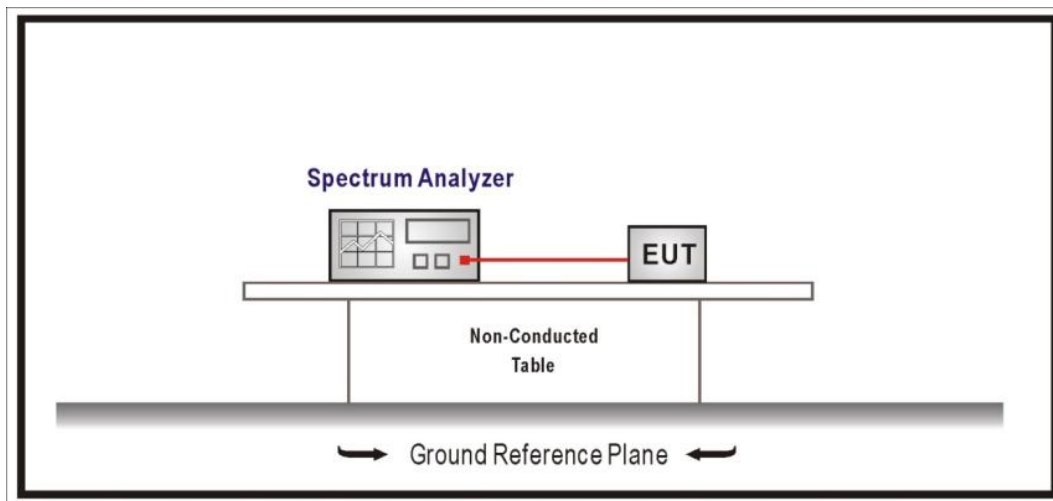
The EUT was setup according to ANSI C63.10-2020 for AC Power Line Conducted Emissions.

3.4. Test Result of AC Power Line Conducted Emission

Refer as Appendix A

4. 6dB Bandwidth

4.1. Test Setup



4.2. Test Limit

The 6 dB bandwidth: ≥ 500 kHz.

4.3. Test Procedures

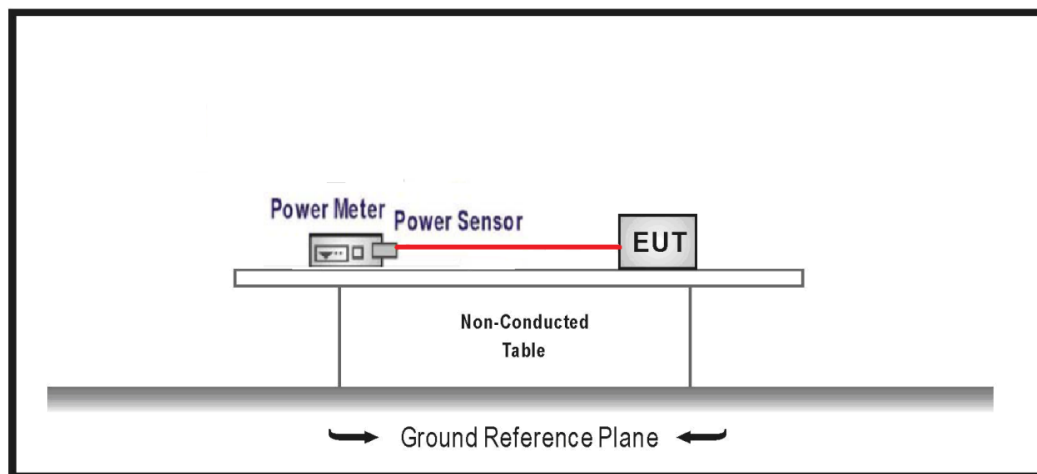
The EUT was setup according to ANSI C63.10-2020; tested according to DTS test procedure of KDB 558074.

4.4. Test Result of 6dB Bandwidth

Refer as Appendix B

5. Maximum Peak Conducted Output Power

5.1. Test Setup



5.2. Test Limit

The Maximum Peak Conducted Output Power shall be less 1 Watt.

5.3. Test Procedures

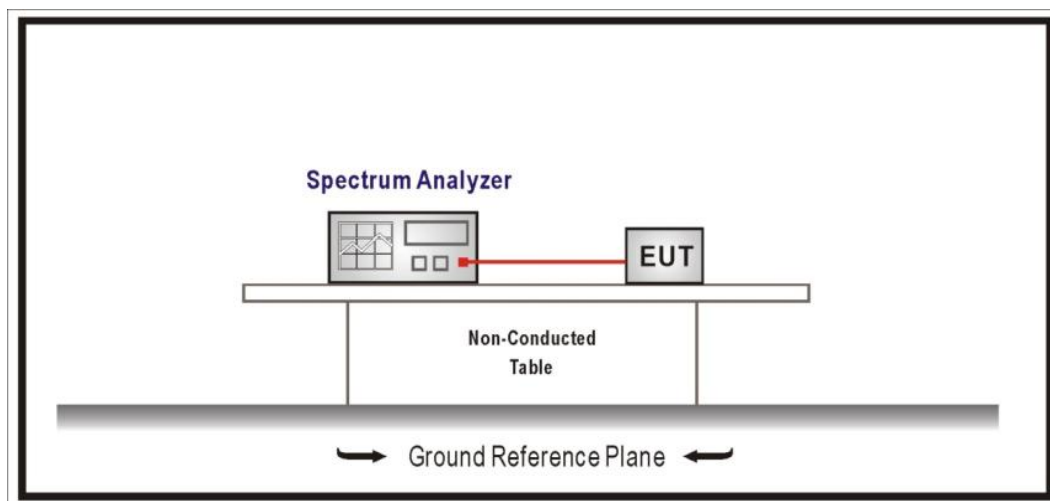
The EUT was setup according to ANSI C63.10-2020; tested according to DTS test procedure of KDB 558074.

5.4. Test Result of Maximum Peak Conducted Output Power

Refer as Appendix C

6. Power Spectral Density

6.1. Test Setup



6.2. Test Limit

The power spectral density conducted from the intentional radiated to the antenna shall not be greater than +8 dBm in any 3 kHz band during any time interval of continuous transmission.

6.3. Test Procedures

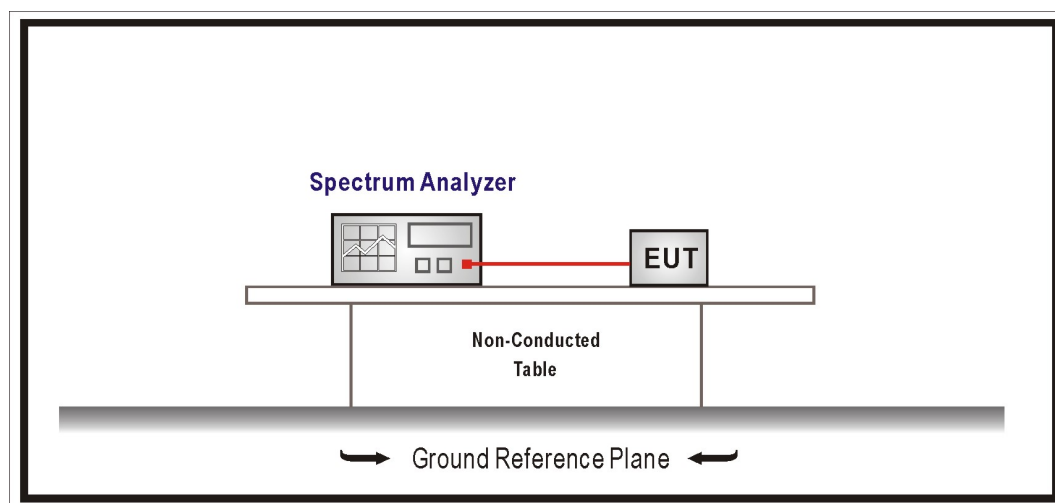
The EUT was setup according to ANSI C63.10-2020; tested according to DTS test procedure of KDB 558074.

6.4. Test Result of Power Spectral Density

Refer as Appendix D

7. Antenna Port Conducted Emission

7.1. Test Setup



7.2. Test Limit

RF output power procedure	Limit (dBc)
Peak output power procedure	20
Average output power procedure	30

Remarks:

1. In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limit.
2. If the transmitter complies with the conducted power limit based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

7.3. Test Procedure

The EUT was setup according to ANSI C63.10-2020 and tested according to DTS test procedure of KDB 558074.

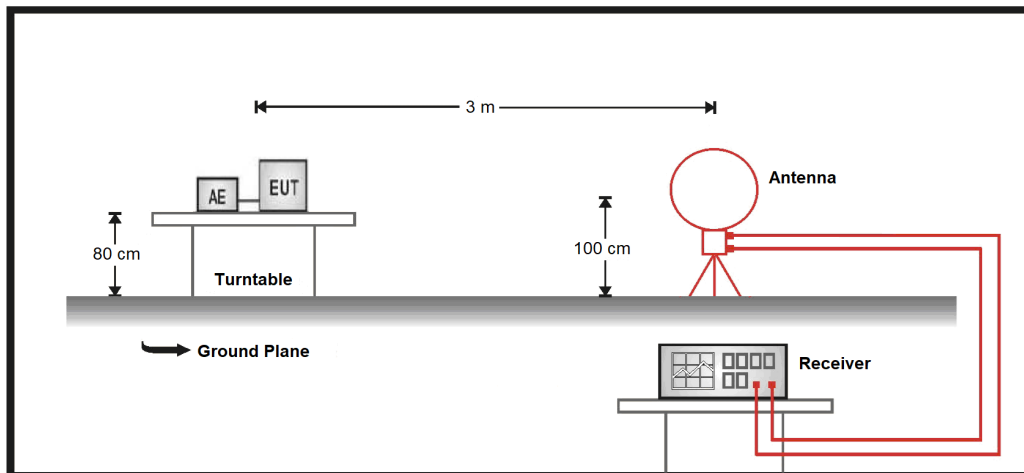
7.4. Test Result of Antenna Port Conducted Emission

Refer as Appendix E

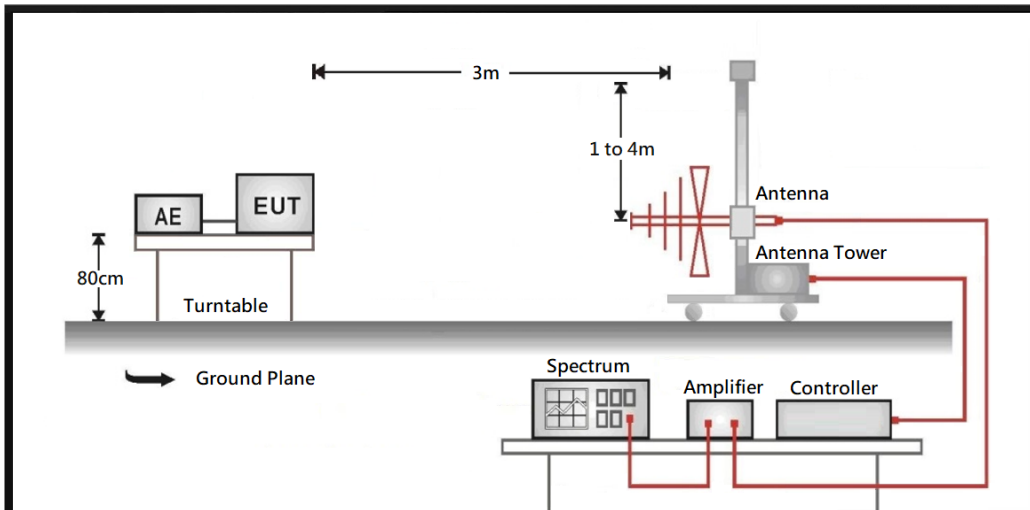
8. Radiated Emission

8.1. Test Setup

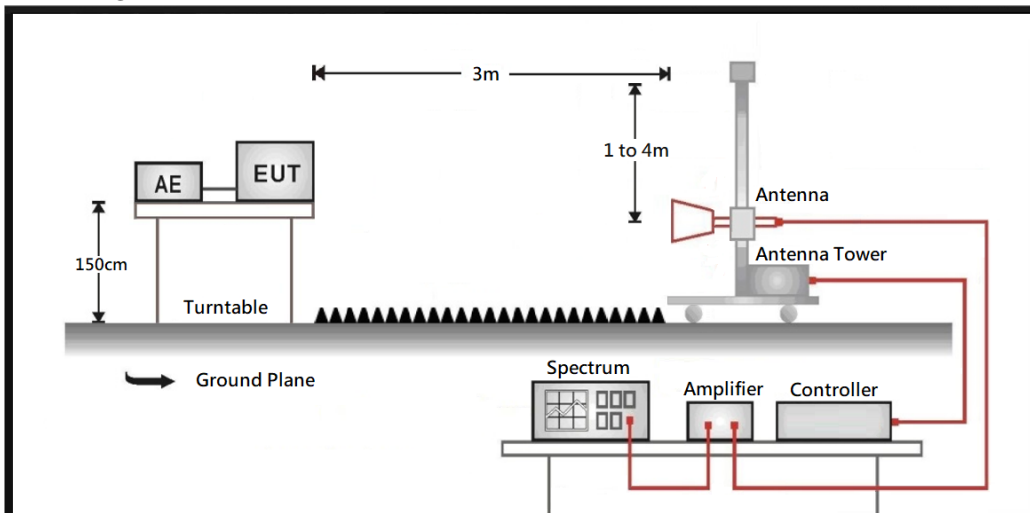
9 kHz ~ 30 MHz



30 MHz ~ 1 GHz



Above 1 GHz



8.2. Test Limit

Frequency (MHz)	Field strength ($\mu\text{V/m}$)	Field strength ($\text{dB}\mu\text{V/m}$)	Measurement distance (m)
0.009 – 0.490	$2400/F(\text{kHz})$	$20 \log (2400/F(\text{kHz}))$	300
0.490 – 1.705	$24000/F(\text{kHz})$	$20 \log (24000/F(\text{kHz}))$	30
1.705 - 30	30	29.5	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

Remarks:

1. Field strength ($\text{dB}\mu\text{V/m}$) = $20 \log$ Field strength ($\mu\text{V/m}$)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

8.3. Test Procedure

The EUT was setup according to ANSI C63.10-2020 and tested according to DTS test procedure of KDB 558074.

The EUT and its simulators are placed on a turn table which is 0.8 or 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10-2020 on radiated measurement.

On any frequency or frequencies from 9 kHz (include The the lowest oscillator frequency generated within the device up to the 10th harmonic) to 1000 MHz, the limit shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limit shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

The bandwidth below 1 GHz setting on the field strength meter is 120 kHz and above 1 GHz is 1 MHz.

8.4. Test Result of Radiated Emission

Refer as Appendix F