Radio Test Report

FCC ID: 2A233-AYANEO2

Change II

Report No.	:	TBR-C-202305-0265-123
Applicant	:	Shenzhen Konkr Technology Co., Ltd
Equipment Under Test (EUT)		
EUT Name	:	tablet computer
Model No.	:	AYANEO 2
Series Model No.	:	AYANEO GEEK, AYANEO GEEK 1S, AYANEO 2S
Brand Name	:	AYANEO
Sample ID	:	RW-C-202305-0265-10-1#& RW-C-202305-0265-10-2#
Receipt Date	:	2023-06-17
Test Date	:	2023-06-17 to 2023-07-28
Issue Date	:	2023-07-28
Standards	:	FCC Part 15 Subpart E 15.407
Test Method	:	ANSI C63.10: 2013 KDB 789033 D02 General UNII Test Procedures New Rules v02r01 KDB 662911 D01 Multiple Transmitter Output v02r01
Conclusions	:	**PASS** In the configuration tested, the EUT complied with the standards specified above.

Witness Engineer	:	Wade.Lv
Engineer Supervisor	:	Ivan Su
Engineer Manager	:	Ray Lai

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

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Contents

Revision History

Report No.	Version	Description	Issued Date
TBR-C-202305-0265-123	Rev.01	Initial issue of report	2023-07-28

1. General Information about EUT

1.1 Client Information

Applicant	:	Shenzhen Konkr Technology Co., Ltd
Address	:	Room 215, Building 22, Maker Town, No. 4109, Liuxian Avenue, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, China
Manufacturer	:	Shenzhen Konkr Technology Co., Ltd
Address	:	Room 215, Building 22, Maker Town, No. 4109, Liuxian Avenue, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, China

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	tablet computer	
Models No.	:	AYANEO 2, AYANEO GEEK, AYANEO GEEK 1S, AYANEO 2S	
Model Different	:	All PCB boards and circuit diagrams are the same, the only difference is that appearance names and color.	
Product Description	:	Operation Frequency: U-NII-1: 5180MHz~5240MHz, U-NII-3: 5745MHz~5825MHz	
		Antenna Gain:	5180MHz~5240MHz: 3.62dBi FPC Antenna1 1.68dBi FPC Antenna2 5745MHz~5825MHz: 4.03dBi FPC Antenna1 0.94dBi FPC Antenna2
		Modulation Type:	802.11a: OFDM (QPSK, BPSK, 16QAM) 802.11n: OFDM (QPSK, BPSK, 16QAM, 64QAM) 802.11ac: OFDM (QPSK, BPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDMA (BPSK, QPSK,16QAM, 64QAM, 256QAM, 1024QAM)
		Bit Rate of Transmitter:	Up to 1201Mbps (2*2 80MHz)
Power Rating	:	Adapter(DCTPD65WUS-B1) Input: 100-240V~50/60Hz 1.6A max. Output: DC 20V 3.25A DC 11.55V by 4200mAh 48.51Wh Rechargeable Li-ion battery	
Software Version	:	----	
Hardware Version	:	AB03_P01	

Remark:

(1)The antenna gain and adapter provided by the applicant, the verified for the RF conduction test provided by TOBY test lab.

(2)For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

(3)Antenna information provided by the applicant.

(4)Channel List:

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5180~5240MHz **(U-NII-1)**	36	5180 MHz	44	5220 MHz
	38	5190 MHz	46	5230 MHz
	40	5200 MHz	48	5240 MHz
	42	5210 MHz		
For 20 MHz Bandwidth, use channel 36, 40, 44, 48. For 40 MHz Bandwidth, use channel 38, 46. For 80 MHz Bandwidth, use channel 42.				

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5745~5825MHz **(U-NII-3)**	149	5745 MHz	157	5785 MHz
	151	5755 MHz	159	5795 MHz
	153	5765 MHz	161	5805 MHz
	155	5775 MHz	165	5825 MHz
For 20 MHz Bandwidth, use channel 149, 153, 157, 161, 165. For 40 MHz Bandwidth, use channel 151, 159. For 80 MHz Bandwidth, use channel 155.				

(5)Antenna information

Mode	TX Antenna (s)	Remark
802.11a	2	ANT. 1+ ANT. 2
802.11n(HT20)	2	ANT. 1+ ANT. 2
802.11ac(VHT20)	2	ANT. 1+ ANT. 2
802.11ac(VHT40)	2	ANT. 1+ ANT. 2
802.11n(HT40)	2	ANT. 1+ ANT. 2
802.11ac(VHT80)	2	ANT. 1+ ANT. 2
802.11ax(HE20)	2	ANT. 1+ ANT. 2
802.11ax(HE40)	2	ANT. 1+ ANT. 2
802.11ax(HE80)	2	ANT. 1+ ANT. 2

5180MHz~5240MHz

Antenna	Brand	Model Name	Type	Antenna Gain(dBi)
ANT. 1	N/A	N/A	FPC	3.62
ANT. 2	N/A	N/A	FPC	1.68

Note:

For MIMO mode: Directional Gain=10 log[(10^G1/20 + 10^G2/20 + … + 10GN/20)^2/NANT] =5.71dBi

5G working with 802.11a/n/ac/ax has MIMO mode.

5745MHz~5825MHz

Antenna	Brand	Model Name	Type	Antenna Gain(dBi)
ANT. 1	N/A	N/A	FPC	4.03
ANT. 2	N/A	N/A	FPC	0.94

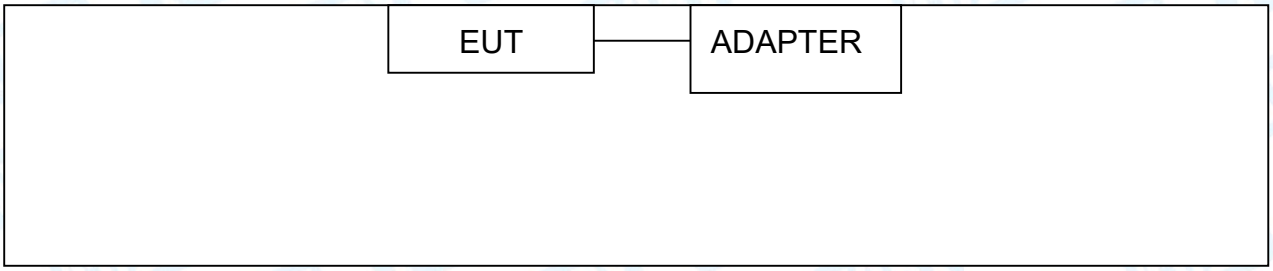
Note:

For MIMO mode: Directional Gain=10 log[(10^G1/20 + 10^G2/20 + … + 10GN/20)^2/NANT] =5.63dBi

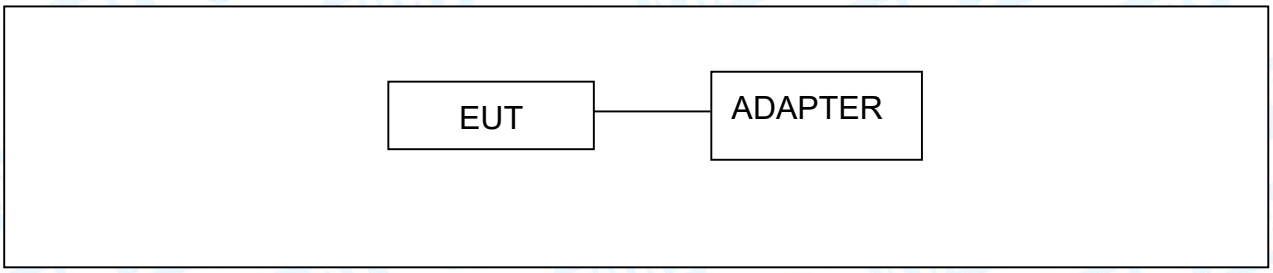
5G working with 802.11a/n/ac/ax has MIMO mode.

1.3 Block Diagram Showing the Configuration of System Tested

Conducted Test



Radiated Test



1.4 Description of Support Units

Equipment Information				
Name	**Model**	**FCC ID/SDOC**	**Manufacturer**	**Used "√"**
Adapter	DCTPD65WUS-B1	----	Dachuan	√
Cable Information				
Number	**Shielded Type**	**Ferrite Core**	**Length**	**Note**
Cable 1	Yes	NO	1.0M	Accessory
Note: The cables and adapter provided by the Applicant.				

1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test		
Final Test Mode		**Description**
Mode 1		TX a Mode(5180MHz)
For Radiated Test Below 1GHz		
Final Test Mode		**Description**
Mode 2		TX a Mode(5180MHz)
For Radiated Above 1GHz and RF Conducted Test		
Test Band	**Final Test Mode**	**Description**
U-NII-1	Mode 3	TX Mode 802.11a Mode Channel 36/40/48
	Mode 4	TX Mode 802.11n(HT20) Mode Channel 36/40/48
	Mode 5	TX Mode 802.11ac(VHT20) Mode Channel 36/40/48
	Mode 6	TX Mode 802.11ax(HE20) Mode Channel 36/40/48
	Mode 7	TX Mode 802.11n(HT40) Mode Channel 38/46
	Mode 8	TX Mode 802.11ac(VHT40) Mode Channel 38/46
	Mode 9	TX Mode 802.11ax(HE40) Mode Channel 38/46
	Mode 10	TX Mode 802.11ac(VHT80) Mode Channel 42
	Mode 11	TX Mode 802.11ax(HE80) Mode Channel 42
U-NII-3	Mode 12	TX Mode 802.11a Mode Channel 149/157/165
	Mode 13	TX Mode 802.11n(HT20) Mode Channel 149/157/165
	Mode 14	TX Mode 802.11ac(VHT20) Mode Channel 149/157/165
	Mode 15	TX Mode 802.11ax(HE20) Mode Channel 149/157/165
	Mode 16	TX Mode 802.11n(HT40) Mode Channel 151/159
	Mode 17	TX Mode 802.11ac(VHT40) Mode Channel 151/159
	Mode 18	TX Mode 802.11ax(HE40) Mode Channel 151/159
	Mode 19	TX Mode 802.11ac(VHT80) Mode Channel 155
	Mode 20	TX Mode 802.11ax(HE80) Mode Channel 155

Note:

(1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.

According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels, and the worst case data rate as follows:

802.11a Mode: OFDM (6 Mbps)
802.11n (HT20) Mode: MCS 0
802.11n (HT40) Mode: MCS 0
802.11ac(VHT20) Mode: MCS 0/ Nss1
802.11ac(VHT40) Mode: MCS 0/ Nss1
802.11ac(VHT80) Mode: MCS 0/ Nss1
802.11ax(HE20) Mode: MCS 0/ Nss1
802.11ax(HE40) Mode: MCS 0/ Nss1
802.11ax(HE80) Mode: MCS 0/ Nss1

(2) During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.

(3) The EUT is considered a portable unit; in normal use it was positioned on X-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

1.6 Description of Test Software Setting

During testing channel& Power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of RF setting.

Test Software: DRTU			
U-NII-1			
Mode	Frequency (MHz)	Parameters	
		Ant.1	Ant.2
802.11a	5180	12.125	12.5
	5200	12.125	12.5
	5240	12.125	12.5
802.11n(HT20)	5180	12.125	12.5
	5200	12.125	12.5
	5240	12.125	12.5
802.11ac(VHT20)	5180	11.5	12.5
	5200	11.5	12.5
	5240	11.5	12.5
802.11ax(HE20)	5180	13	14
	5200	13	14
	5240	13	14
802.11n(HT40)	5190	14.625	15.5
	5230	14.625	15.5
802.11ac(VHT40)	5190	13	14
	5230	13	14
802.11ax(HE40)	5190	12.5	13.75
	5230	12.5	13.75
802.11ac(VHT80)	5210	12.5	13.75
802.11ax(HE80)	5210	10.875	11.875
U-NII-3			
Mode	Frequency (MHz)	Parameters	
		Ant.1	Ant.2
802.11a	5745	12.125	12.5
	5785	12.125	12.5
	5825	12.125	12.5
802.11n(HT20)	5745	12.125	12.5
	5785	12.125	12.5
	5825	12.125	12.5
802.11ac(VHT20)	5745	11.5	12.5
	5785	11.5	12.5
	5825	11.5	12.5
802.11ax(HE20)	5745	13	14
	5785	13	14
	5825	13	14
802.11n(HT40)	5755	14.625	15.5
	5795	14.625	15.5
802.11ac(VHT40)	5755	13	14
	5795	13	14
802.11ax(HE40)	5755	12.5	13.75
	5795	12.5	13.75
802.11ac(VHT80)	5775	12.5	13.75
802.11ax(HE80)	5775	10.875	11.875

1.7 Measurement Uncertainty

The reported uncertainty of measurement y±U，where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2，providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty (U_{Lab})
Conducted Emission	Level Accuracy: 9kHz~150kHz 150kHz to 30MHz	±3.50 dB ±3.10 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	±4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	±4.50 dB
Radiated Emission	Level Accuracy: Above 1000MHz	±4.20 dB

1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1/F.,Building 6, Rundongsheng Industrial Zone, Longzhu, Xixiang, Bao'an District, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)
The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

A2LA Certificate No.: 4750.01
The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025：2017 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01.FCC Accredited Test Site Number: 854351. Designation Number: CN1223.

IC Registration No.: (11950A)
The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A. CAB identifier: CN0056.

2. Test Summary

Standard Section FCC	Test Item	Test Sample(s)	Judgment	Remark
FCC 15.207(a)	Conducted Emission	RW-C-202305-0265-10-1#	PASS	N/A
FCC 15.209 & 15.407(b)	Radiated Unwanted Emissions	RW-C-202305-0265-10-1#	PASS	N/A
FCC 15.203	Antenna Requirement	/	PASS	N/A
FCC 15.407(a)	-26dB Emission Bandwidth	/	PASS	N/A
FCC 15.407(a)	99% Occupied Bandwidth	/	PASS	N/A
FCC 15.407(e)	-6dB Min Emission Bandwidth	/	PASS	N/A
FCC 15.407(a)	Maximum Conducted Output Power	/	PASS	N/A
FCC 15.407(a)	Power Spectral Density	/	PASS	N/A
FCC 15.407(b)& 15.205	Emissions in Restricted Bands	/	PASS	N/A
FCC 15.407(b)&15.209	Conducted Unwanted Emissions	/	PASS	N/A
FCC 15.407(g)	Frequency Stability	/	PASS	N/A
/	On Time and Duty Cycle	/	/	N/A

Note: N/A is an abbreviation for Not Applicable.

3. Test Software

Test Item	Test Software	Manufacturer	Version No.
Conducted Emission	EZ-EMC	EZ	CDI-03A2
Radiation Emission	EZ-EMC	EZ	FA-03A2RE
Radiation Emission	EZ-EMC	EZ	FA-03A2RE+
RF Conducted Measurement	MTS-8310	MWRFtest	V2.0.0.0
RF Test System	JS1120	Tonscend	V3.2.22

4. Test Equipment

Conducted Emission Test					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Cal. Due Date**
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Jun. 20, 2023	Jun. 19, 2024
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jun. 20, 2023	Jun. 19, 2024
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jun. 20, 2023	Jun. 19, 2024
LISN	Rohde & Schwarz	ENV216	101131	Jun. 20, 2023	Jun. 19, 2024
ISN	SCHWARZBECK	NTFM 8131	8131-193	Jun. 20, 2023	Jun. 19, 2024
ISN	SCHWARZBECK	CAT3 8158	cat3 5158-0094	Jun. 20, 2023	Jun. 19, 2024
ISN	SCHWARZBECK	NTFM5158	NTFM5158 0145	Jun. 20, 2023	Jun. 19, 2024
ISN	SCHWARZBECK	CAT 8158	cat5 8158-179	Jun. 20, 2023	Jun. 19, 2024
Radiation Emission Test (B Site)					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Cal. Due Date**
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep.01.2022	Aug. 31, 2023
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jun. 20, 2023	Jun. 19, 2024
EMI Test Receiver	Rohde & Schwarz	ESU-8	100472/008	Feb. 23, 2023	Feb. 22, 2024
Bilog Antenna	SCHWARZBECK	VULB 9168	1225	Dec. 05, 2021	Dec. 04, 2023
Horn Antenna	SCHWARZBECK	BBHA 9120 D	2463	Feb. 26, 2022	Feb.25, 2024
Horn Antenna	SCHWARZBECK	BBHA 9170	1118	Jun. 26, 2022	Jun.25, 2024
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Jun. 26, 2022	Jun.25, 2024
HF Amplifier	Tonscend	TAP9E6343	AP21C806117	Sep.01.2022	Aug. 31, 2023
HF Amplifier	Tonscend	TAP051845	AP21C806141	Sep.01.2022	Aug. 31, 2023
HF Amplifier	Tonscend	TAP0184050	AP21C806129	Sep.01.2022	Aug. 31, 2023
Highpass Filter	CD	HPM-6.4/18G	---	N/A	N/A
Highpass Filter	CD	HPM-2.8/18G	---	N/A	N/A
Highpass Filter	XINBO	XBLBQ-HTA67(8-25G)	22052702-1	N/A	N/A
Antenna Conducted Emission					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Cal. Due Date**
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jun. 20, 2023	Jun. 19, 2024
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jun. 20, 2023	Jun. 19, 2024
MXA Signal Analyzer	KEYSIGHT	N9020B	MY60110172	Sep.01.2022	Aug. 31, 2023

MXA Signal Analyzer	Agilent	N9020A	MY47380425	Sep.01.2022	Aug. 31, 2023
Vector Signal Generator	Agilent	N5182A	MY50141294	Sep.01.2022	Aug. 31, 2023
Analog Signal Generator	Agilent	N5181A	MY48180463	Sep.01.2022	Aug. 31, 2023
Vector Signal Generator	KEYSIGHT	N5182B	MY59101429	Sep.01.2022	Aug. 31, 2023
Analog Signal Generator	KEYSIGHT	N5173B	MY61252685	Sep.01.2022	Aug. 31, 2023
RF Power Sensor	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO26	Sep.01.2022	Aug. 31, 2023
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO29	Sep.01.2022	Aug. 31, 2023
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO31	Sep.01.2022	Aug. 31, 2023
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO33	Sep.01.2022	Aug. 31, 2023
RF Control Unit	Tonsced	JS0806-1	21C8060380	N/A	N/A
RF Control Unit	Tonsced	JS0806-2	21F8060439	Sep.01.2022	Aug. 31, 2023
Band Reject Filter Group	Tonsced	JS0806-F	21D8060414	Jun. 20, 2023	Jun. 19, 2024
Power Control Box	Tonsced	JS0806-4ADC	21C8060387	N/A	N/A
Wideband Radio Comunication Tester	Rohde & Schwarz	CMW500	144382	Sep.01.2022	Aug. 31, 2023
Universal Radio Communication Tester	Rohde&Schwarz	CMW500	168796	Feb. 23, 2023	Feb.22, 2024
Temperature and Humidity Chamber	ZhengHang	ZH-QTH-1500	ZH2107264	Jun. 20, 2023	Jun. 19, 2024

5. Conducted Emission Test

5.1 Test Standard and Limit

5.1.1 Test Standard

FCC Part 15.207

5.1.2 Test Limit

Frequency	Maximum RF Line Voltage (dBμV)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

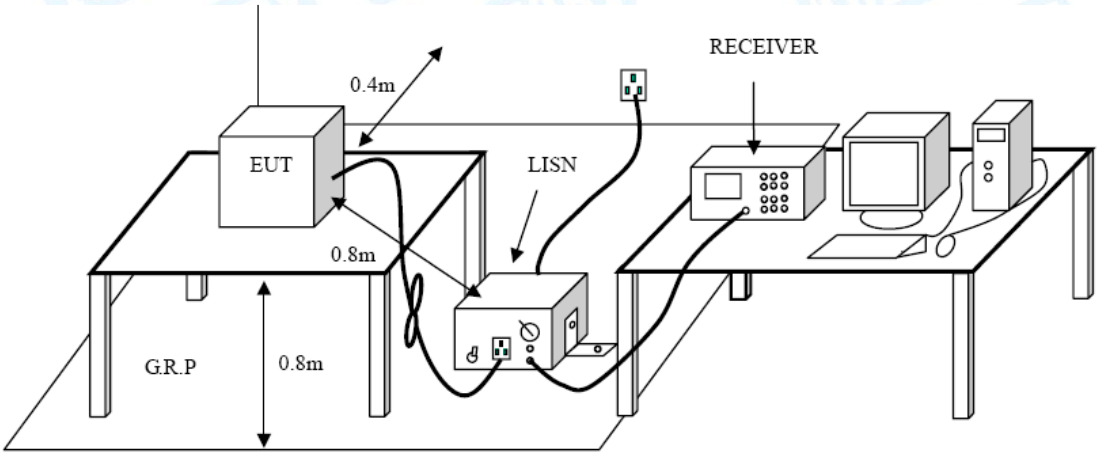
Notes:

(1) *Decreasing linearly with logarithm of the frequency.

(2) The lower limit shall apply at the transition frequencies.

(3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

5.2 Test Setup



5.3 Test Procedure

● The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

● Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

● I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

● LISN at least 80 cm from nearest part of EUT chassis.

●The bandwidth of EMI test receiver is set at 9 kHz, and the test frequency band is from 0.15MHz to 30MHz.

5.4 Deviation From Test Standard

No deviation

5.5 EUT Operating Mode

Please refer to the description of test mode.

5.6 Test Data

Please refer to the Attachment A inside test report.

6. Radiated and Conducted Unwanted Emissions

6.1 Test Standard and Limit

6.1.1 Test Standard

FCC Part 15.209 & FCC Part 15.407(b)

6.1.2 Test Limit

General field strength limits at frequencies Below 30MHz		
Frequency (MHz)	**Field Strength (microvolt/meter)**	**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
Note: 1, The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.		

General field strength limits at frequencies above 30 MHz		
Frequency (MHz)	**Field strength (μV/m at 3 m)**	**Measurement Distance (meters)**
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

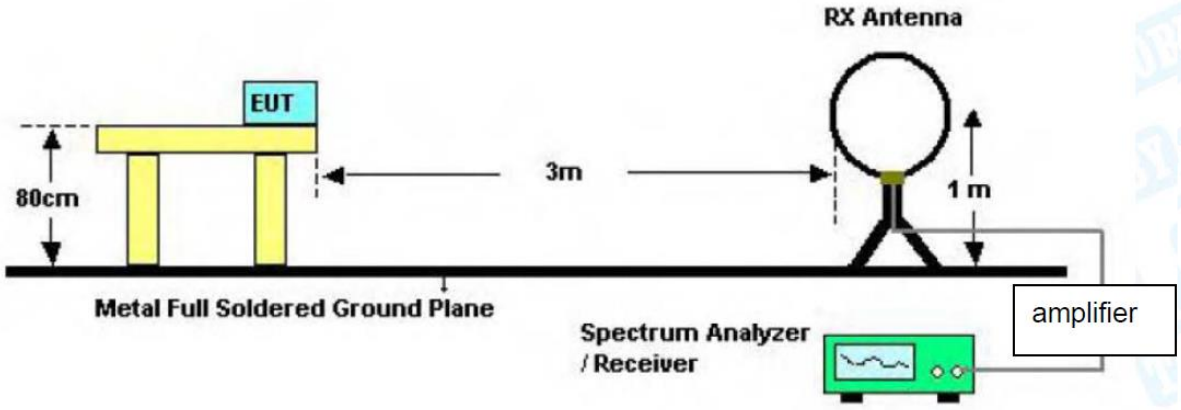
General field strength limits at frequencies Above 1000MHz		
Frequency (MHz)	**Distance of 3m (dBuV/m)**	
	Peak	**Average**
Above 1000	74	54
Note: (1) The tighter limit applies at the band edges. (2) Emission Level(dBuV/m)=20log Emission Level(uV/m)		

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced 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 that the transmitter demonstrates compliance with the peak conducted power

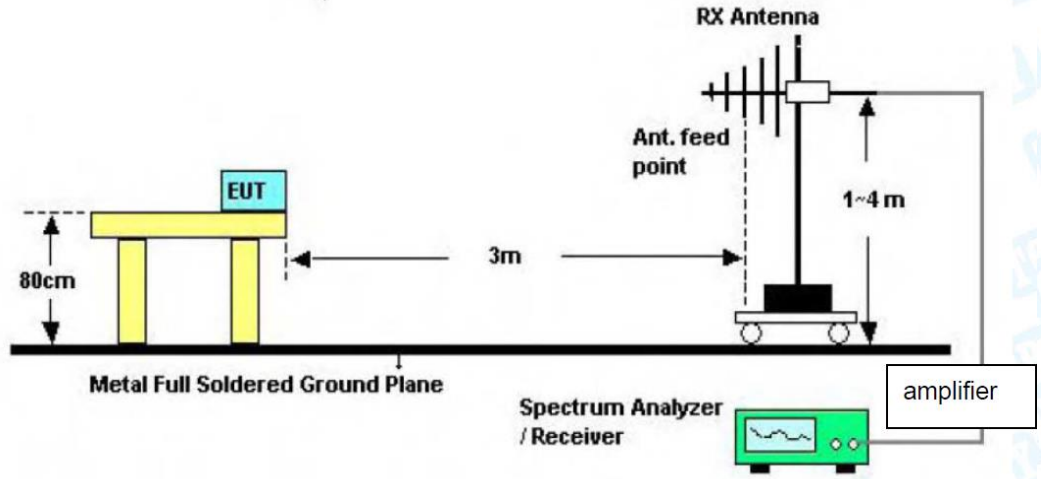
limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

6.2 Test Setup

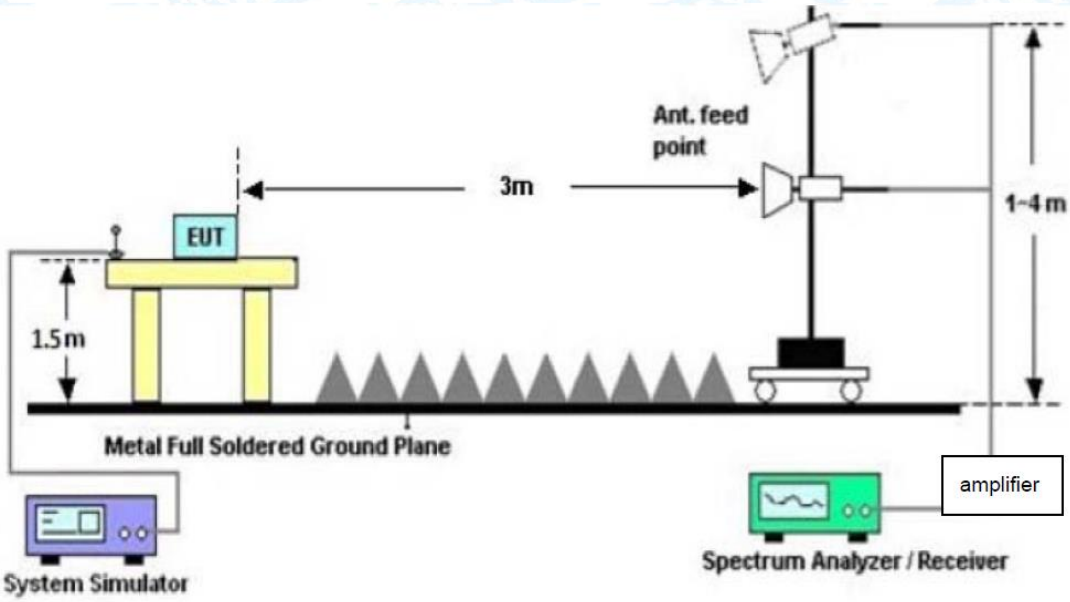
Radiated measurement



Below 30MHz Test Setup

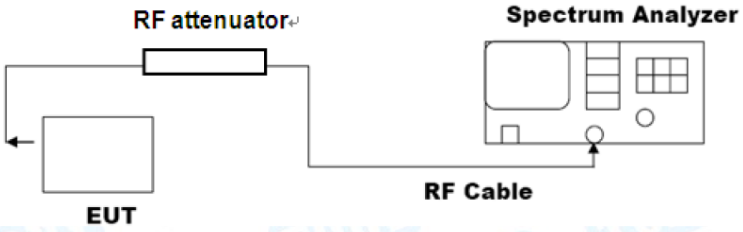


Below 1000MHz Test Setup



Above 1GHz Test Setup

Conducted measurement



6.3 Test Procedure

---Radiated measurement

●The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.

● Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.

● The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.

●The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

●If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Below 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.

●Testing frequency range 30MHz-1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection. Testing frequency range 9KHz-150Hz the measuring instrument use VBW=200Hz with Quasi-peak detection. Testing frequency range 9KHz-30MHz the measuring instrument use VBW=9kHz with Quasi-peak detection.

●Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

●For the actual test configuration, please see the test setup photo.

--- Conducted measurement

●Reference level measurement

Establish a reference level by using the following procedure:

a) Set instrument center frequency to DTS channel center frequency.

b) Set the span to≥1.5 times the DTS bandwidth.

c) Set the RBW = 100 kHz.

d) Set the VBW≥[3*RBW].

e) Detector = peak.

f) Sweep time = auto couple.

g) Trace mode = max hold.

h) Allow trace to fully stabilize.

i) Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

●Emission level measurement

Establish an emission level by using the following procedure:

a) Set the center frequency and span to encompass frequency range to be measured.

b) Set the RBW = 100 kHz.

c) Set the VBW≥[3*RBW].

d) Detector = peak.

e) Sweep time = auto couple.

f) Trace mode = max hold.

g) Allow trace to fully stabilize.

h) Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

6.4 Deviation From Test Standard

No deviation

6.5 EUT Operating Mode

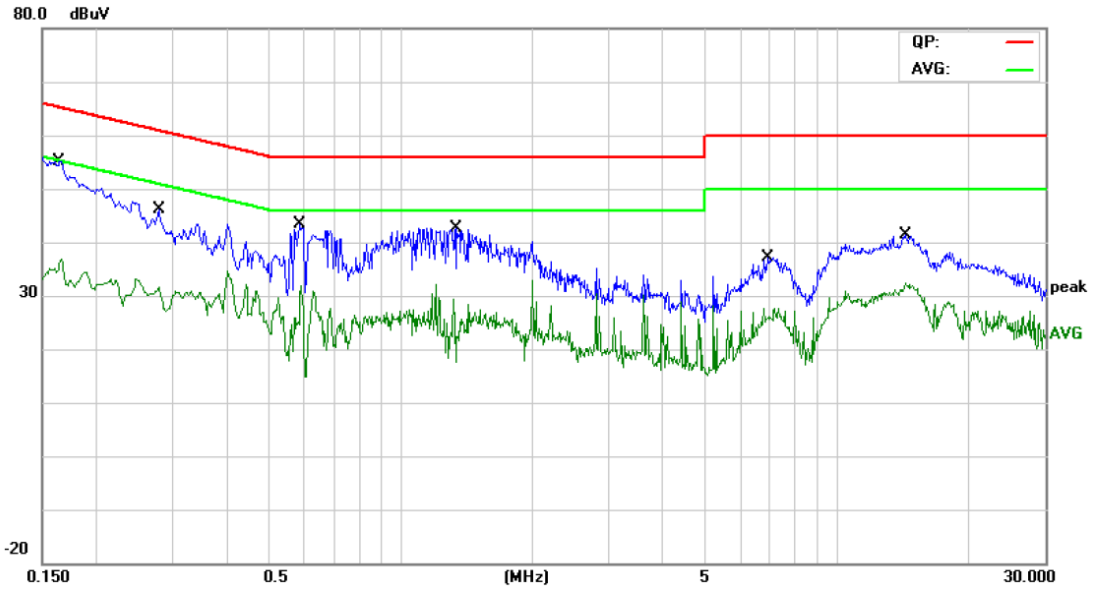
Please refer to the description of test mode.

6.6 Test Data

Radiated measurement please refer to the Attachment B inside test report.

Attachment A-- Conducted Emission Test Data

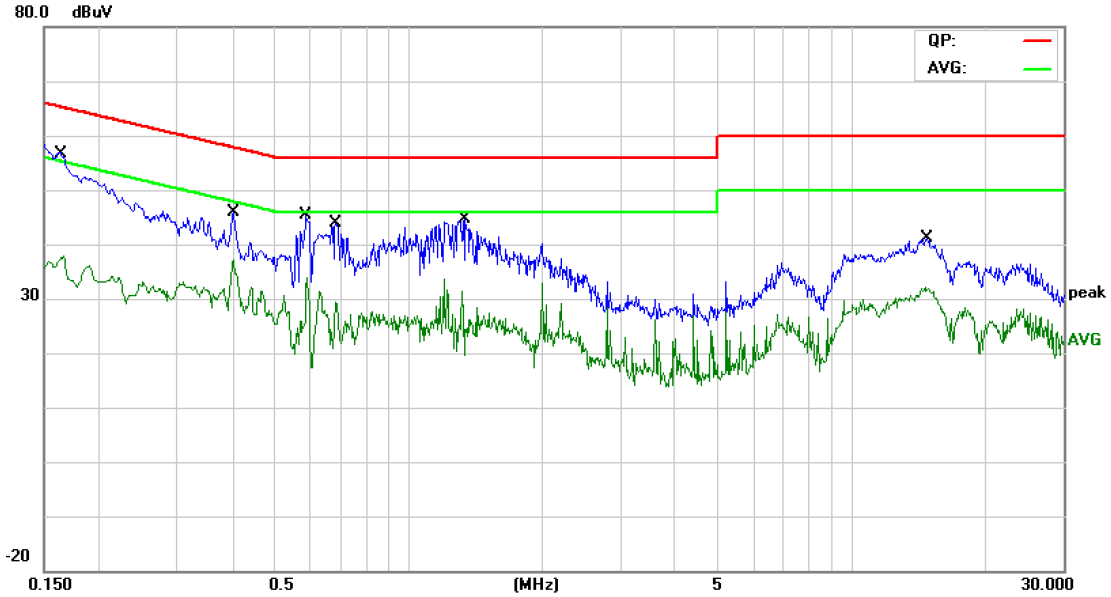
Temperature:	25.4℃	**Relative Humidity:**	49%
Test Voltage:	AC 120V/60Hz		
Terminal:	Line		
Test Mode:	Mode 1		
Remark:	Only worse case is reported.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	*	0.1641	37.32	11.02	48.34	65.25	-16.91	QP
2		0.1641	22.49	11.02	33.51	55.25	-21.74	AVG
3		0.2779	22.96	11.00	33.96	60.88	-26.92	QP
4		0.2779	15.69	11.00	26.69	50.88	-24.19	AVG
5		0.5860	24.99	10.90	35.89	56.00	-20.11	QP
6		0.5860	17.18	10.90	28.08	46.00	-17.92	AVG
7		1.3420	24.75	10.64	35.39	56.00	-20.61	QP
8		1.3420	8.20	10.64	18.84	46.00	-27.16	AVG
9		6.9260	18.25	10.06	28.31	60.00	-31.69	QP
10		6.9260	12.18	10.06	22.24	50.00	-27.76	AVG
11		14.3460	27.36	10.34	37.70	60.00	-22.30	QP
12		14.3460	22.10	10.34	32.44	50.00	-17.56	AVG

Remark:
1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) =QuasiPeak/Average (dBuV)-Limit (dBuV)

Temperature:	25.4℃	**Relative Humidity:**	49%
Test Voltage:	AC 120V/60Hz		
Terminal:	Neutral		
Test Mode:	Mode 1		
Remark:	Only worse case is reported.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1660	37.12	11.03	48.15	65.15	-17.00	QP
2		0.1660	21.98	11.03	33.01	55.15	-22.14	AVG
3		0.4020	24.25	10.89	35.14	57.81	-22.67	QP
4	*	0.4020	20.62	10.89	31.51	47.81	-16.30	AVG
5		0.5860	25.11	10.90	36.01	56.00	-19.99	QP
6		0.5860	17.09	10.90	27.99	46.00	-18.01	AVG
7		0.6860	23.73	10.87	34.60	56.00	-21.40	QP
8		0.6860	9.17	10.87	20.04	46.00	-25.96	AVG
9		1.3420	24.15	10.64	34.79	56.00	-21.21	QP
10		1.3420	8.04	10.64	18.68	46.00	-27.32	AVG
11		14.7620	27.08	10.36	37.44	60.00	-22.56	QP
12		14.7620	21.56	10.36	31.92	50.00	-18.08	AVG

Remark:
1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) =QuasiPeak/Average (dBuV)-Limit (dBuV)

Attachment B-- Unwanted Emissions Data

---Radiated Unwanted Emissions

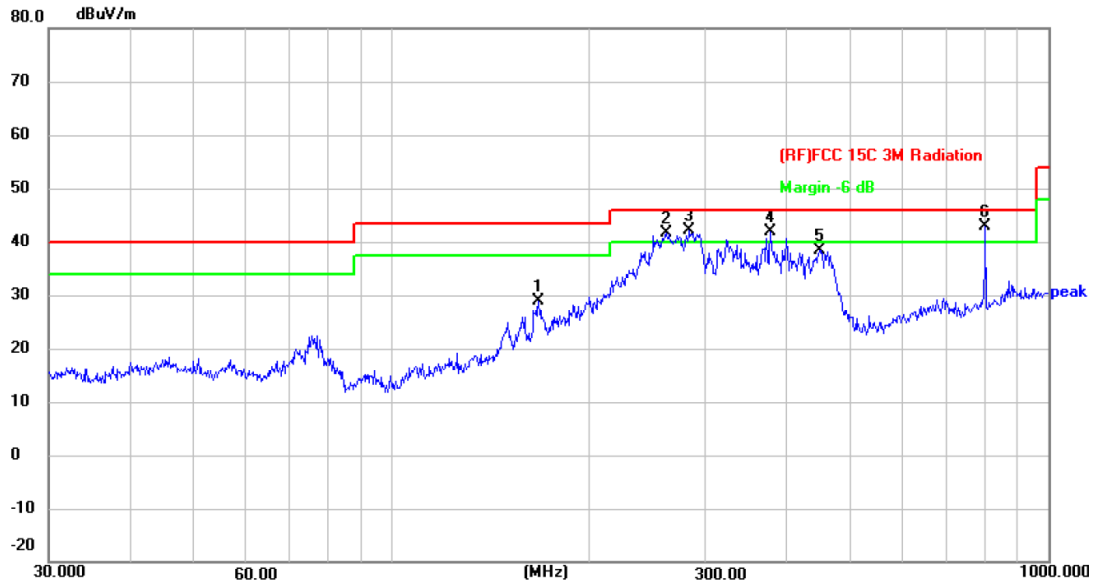
9 KHz~30 MHz

From 9 KHz to 30 MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB Below the permissible value has no need to be reported.

30MHz~1GHz

Temperature:	24.3℃	**Relative Humidity:**	45%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	Mode 2 TX a Mode(5180MHz)		
Remark:	Only worse case is reported.		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	167.2368	51.56	-22.76	28.80	43.50	-14.70	peak	P
2 !	261.9753	64.06	-22.33	41.73	46.00	-4.27	peak	P
3 !	283.9791	63.32	-21.31	42.01	46.00	-3.99	peak	P
4 !	377.2591	60.53	-18.58	41.95	46.00	-4.05	peak	P
5	447.9822	55.16	-16.67	38.49	46.00	-7.51	peak	P
6 *	801.7863	52.00	-9.02	42.98	46.00	-3.02	peak	P

*:Maximum data x:Over limit !:over margin

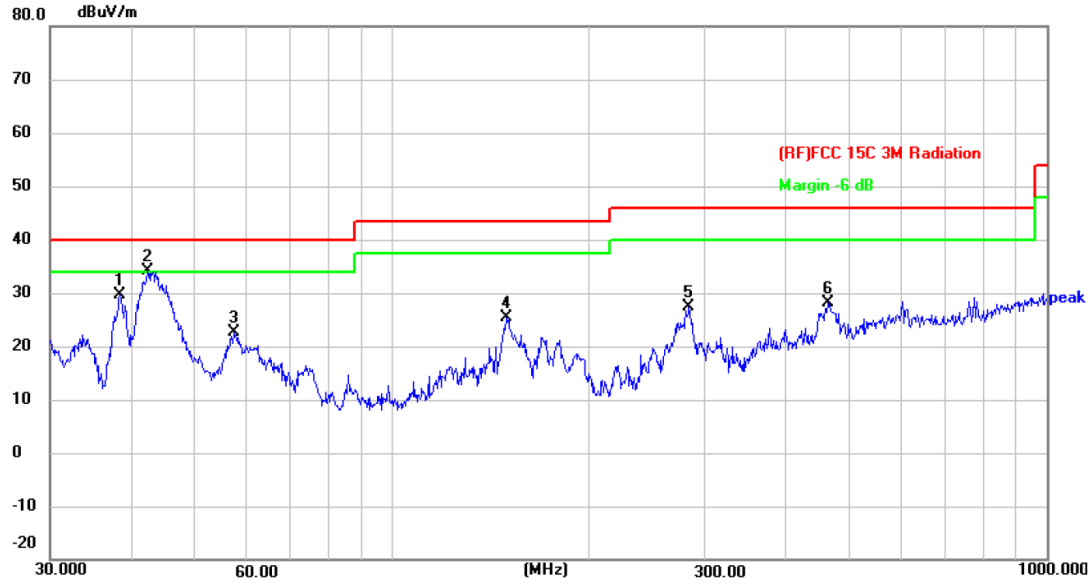
Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)

2. QuasiPeak (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)

3. Margin (dB) = QuasiPeak (dBμV/m)-Limit QPK(dBμV/m)

Temperature:	24.3℃	Relative Humidity:	45%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	Mode 2 TX a Mode(5180MHz)		
Remark:	Only worse case is reported.		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	38.3462	52.67	-22.92	29.75	40.00	-10.25	peak	P
2 *	42.3022	57.02	-22.83	34.19	40.00	-5.81	peak	P
3	57.3923	45.97	-23.36	22.61	40.00	-17.39	peak	P
4	149.4857	47.90	-22.45	25.45	43.50	-18.05	peak	P
5	283.9791	48.78	-21.31	27.47	46.00	-18.53	peak	P
6	462.3455	44.33	-16.32	28.01	46.00	-17.99	peak	P

*:Maximum data x:Over limit !:over margin

Remark:
1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. QuasiPeak (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
3. Margin (dB) = QuasiPeak (dBμV/m)-Limit QPK(dBμV/m)

-----END OF THE REPORT------