



Radio Test Report

FCC ID: 2A233-AYANEOAIR

Change II

Report No. : TBR-C-202209-0095-63
Applicant : Shenzhen Konkr Technology Co., Ltd
Equipment Under Test (EUT)
EUT Name : tablet computer
Model No. : AYANEO AIR Pro
Series Model No. : AYANEO AIR
Brand Name : AYANEO
Sample ID : RW-C-202209-0095-5-1#& RW-C-202209-0095-5-2#
Receipt Date : 2022-10-19
Test Date : 2022-10-19 to 2022-11-11
Issue Date : 2022-11-11
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 :

Engineer Supervisor :

Engineer Manager :

Wade. W

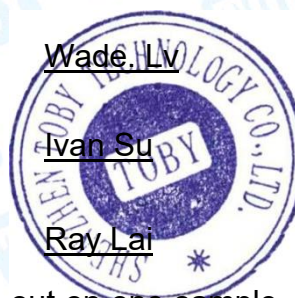
Ivan Su

Ray Lai

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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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Revision History

Report No.	Version	Description	Issued Date
TBR-C-202209-0095-63	Rev.01	Initial issue of report	2022-11-11



1. General Information about EUT

1.1 Client Information

Applicant	:	Shenzhen Konk Technology Co., Ltd
Address	:	Room 215, Building 22, Maker Town, No. 4109, Liuxian Avenue, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, China
Manufacturer	:	Shenzhen Konk 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 AIR Pro, AYANEO AIR
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name.
Product Description	:	Operation Frequency: U-NII-1: 5180MHz~5240MHz, U-NII-3: 5745MHz~5825MHz
	Antenna Gain:	5180MHz~5240MHz: 5.0dBi FPC Antenna0 -0.34dBi FPC Antenna1 5745MHz~5825MHz: 5.64dBi FPC Antenna0 2.83dBi FPC Antenna1
	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 20V3.0A DC 11.55V by 3200mAh/36.96Wh Rechargeable Li-ion Battery
Software Version	:	N/A
Hardware Version	:	HDF620003-D02



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
5260~5320 MHz (U-NII-2A)	52	5260 MHz	60	5300 MHz
	54	5270 MHz	62	5310MHz
	56	5280MHz	64	5320 MHz
	58	5290MHz		

For 20 MHz Bandwidth, use channel 52, 56, 60, 64. For 40 MHz Bandwidth, use channel 54, 62.

For 80 MHz Bandwidth, use channel 58.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5500~5720 MHz (U-NII-2C)	100	5500 MHz	124	5620 MHz
	102	5510 MHz	126	5630 MHz
	104	5520 MHz	128	5640 MHz
	106	5530 MHz	132	5660 MHz
	108	5540 MHz	134	5670 MHz
	110	5550 MHz	136	5680 MHz
	112	5560 MHz	140	5700 MHz
	116	5580 MHz		
	118	5590 MHz		
	120	5600 MHz		
	122	5610 MHz		

For 20 MHz Bandwidth, use channel 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140

For 40 MHz Bandwidth, use channel 102, 110, 118, 126, 134

For 80 MHz Bandwidth, use channel 106, 122.

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.

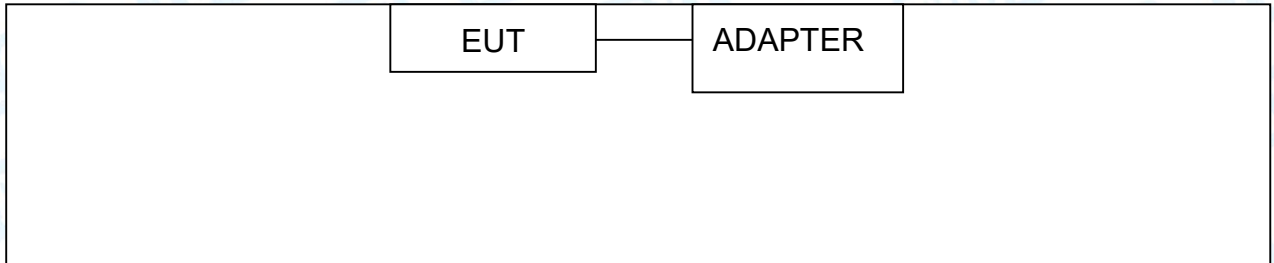
(5)Antenna information

Mode		TX Antenna (s)	Remark	
802.11a		2	ANT. 0+ ANT. 1	
802.11n(HT20)		2	ANT. 0+ ANT. 1	
802.11ac(VHT20)		2	ANT. 0+ ANT. 1	
802.11ac(VHT40)		2	ANT. 0+ ANT. 1	
802.11n(HT40)		2	ANT. 0+ ANT. 1	
802.11ac(VHT80)		2	ANT. 0+ ANT. 1	
802.11ax(HE20)		2	ANT. 0+ ANT. 1	
802.11ax(HE40)		2	ANT. 0+ ANT. 1	
802.11ax(HE80)		2	ANT. 0+ ANT. 1	
5180MHz~5240MHz				
Antenna	Brand	Model Name	Type	Antenna Gain(dBi)
ANT. 0	N/A	N/A	FPC	5.0
ANT. 1	N/A	N/A	FPC	-0.34
Note:				
For MIMO mode: Directional Gain=10 log[(10^G1/20 + 10^G2/20 + ... + 10GN/20)^2/NANT] =5.74dBi				
5G working with 802.11a/n/ac/ax has MIMO mode.				
5745MHz~5825MHz				
Antenna	Brand	Model Name	Type	Antenna Gain(dBi)
ANT. 0	N/A	N/A	FPC	5.64
ANT. 1	N/A	N/A	FPC	2.83
Note:				
For MIMO mode: Directional Gain=10 log[(10^G1/20 + 10^G2/20 + ... + 10GN/20)^2/NANT] =7.36dBi				
5G working with 802.11a/n/ac/ax has MIMO mode.				

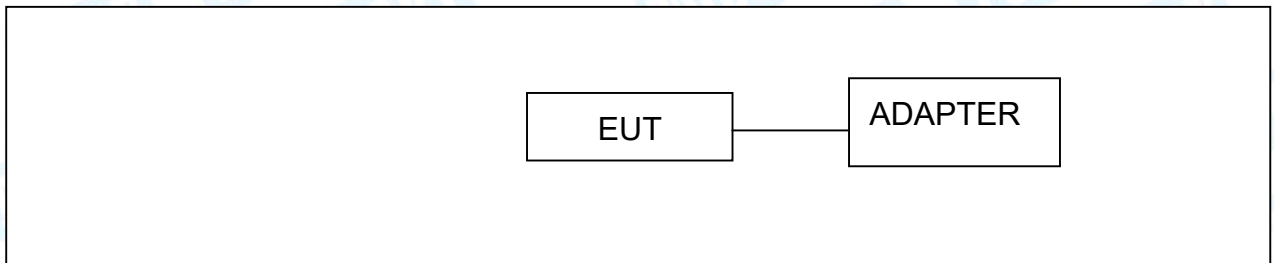


1.3 Block Diagram Showing the Configuration of System Tested

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 36/44/48
	Mode 4	TX Mode 802.11n(HT20) Mode Channel 36/44/48
	Mode 5	TX Mode 802.11ac(VHT20) Mode Channel 36/44/48
	Mode 6	TX Mode 802.11ax(HE20) Mode Channel 36/44/48
	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
U-NII-3	Mode 11	TX Mode 802.11ax(HE80) Mode Channel 42
	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: QATool_Dbg			
U-NII-1			
Mode	Frequency (MHz)	Parameters	
		Ant.0	Ant.1
802.11a	5180	16	16
	5220	13.5	13.5
	5240	13.5	13.5
802.11n(HT20)	5180	16.5	16.5
	5220	15	15
	5240	14.5	14.5
802.11ac(VHT20)	5180	16	16
	5220	15	15
	5240	15	15
802.11ax(HE20)	5180	17.5	17.5
	5220	15	15
	5240	14.5	14.5
802.11n(HT40)	5190	16	16
	5230	15	15
802.11ac(VHT40)	5190	16	16
	5230	15	15
802.11ax(HE40)	5190	16	16
	5230	15	15
802.11ac(VHT80)	5210	16	16
802.11ax(HE80)	5210	15	15
U-NII-3			
Mode	Frequency (MHz)	Parameters	
		Ant.0	Ant.1
802.11a	5745	14.5	14.5
	5785	14.5	14.5
	5825	14.5	14.5
802.11n(HT20)	5745	15.5	15.5
	5785	15	15
	5825	15	15
802.11ac(VHT20)	5745	15.5	15.5
	5785	15	15
	5825	15	15
802.11ax(HE20)	5745	15	15
	5785	15.5	15.5
	5825	15	15
802.11n(HT40)	5755	15	15
	5795	15	15
802.11ac(VHT40)	5755	15.5	15.5
	5795	15.5	15.5
802.11ax(HE40)	5755	15.5	15.5
	5795	15	15
802.11ac(VHT80)	5775	15	15
802.11ax(HE80)	5775	15	15



1.7 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expanded 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	Test Item	Test Sample(s)	Judgment	Remark
FCC				
FCC 15.207(a)	Conducted Emission	RW-C-202209-0095-5-1#	PASS	N/A
FCC 15.209 & 15.407(b)	Radiated Unwanted Emissions	RW-C-202209-0095-5-1#	PASS	N/A
FCC 15.203	Antenna Requirement	/	N/A	N/A
FCC 15.407(a)	-26dB Emission Bandwidth	/	N/A	N/A
FCC 15.407(a)	99% Occupied Bandwidth	/	N/A	N/A
FCC 15.407(e)	-6dB Min Emission Bandwidth	/	N/A	N/A
FCC 15.407(a)	Maximum Conducted Output Power	/	N/A	N/A
FCC 15.407(a)	Power Spectral Density	/	N/A	N/A
FCC 15.407(b)& 15.205	Emissions in Restricted Bands	/	N/A	N/A
FCC 15.407(b)&15.209	Conducted Unwanted Emissions	/	N/A	N/A
FCC 15.407(g)	Frequency Stability	/	N/A	N/A
/	On Time and Duty Cycle	/	/	N/A

Note:

(1) N/A is an abbreviation for Not Applicable.

(2) This report is Class II change report for the original equipment have changed, the transmitter module itself has not changed. More information about the test data please refer to the original test report.

(3) As there is no change regard RF transmitter portion and Antenna assembly, the change will not have effect on Radiated emission above 1GHz by judging for experience, thus testing is performed up to 1GHz only.

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	V2.6.88.0336



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. 23, 2022	Jun. 22, 2023
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jun. 23, 2022	Jun. 22, 2023
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jun. 22, 2022	Jun. 21, 2023
LISN	Rohde & Schwarz	ENV216	101131	Jun. 22, 2022	Jun. 21, 2023
Radiation Emission Test (A Site)					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jun. 23, 2022	Jun. 22, 2023
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jun. 23, 2022	Jun. 22, 2023
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Feb. 27, 2022	Feb. 26, 2024
Horn Antenna	ETS-LINDGREN	3117	00143207	Feb. 26, 2022	Feb. 25, 2024
Horn Antenna	SCHWARZBECK	BBHA 9170	1118	Feb. 26, 2022	Feb. 25, 2024
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Feb. 26, 2022	Feb.25, 2024
Pre-amplifier	SONOMA	310N	185903	Feb. 26, 2022	Feb.25, 2023
Pre-amplifier	HP	8449B	3008A00849	Feb. 26, 2022	Feb.25, 2023
HF Amplifier	Tonscend	TAP0184050	AP21C806129	Sep. 01, 2022	Aug. 31, 2023
Radiation Emission Test (B Site)					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jun. 23, 2022	Jun. 22, 2023
MXA Signal Analyzer	Agilent	N9020A	MY47380425	Sep. 01, 2022	Aug. 31, 2023
EMI Test Receiver	Rohde & Schwarz	ESU-8	100472	Feb. 26, 2022	Feb.25, 2023
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
Antenna Conducted Emission					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jun. 23, 2022	Jun. 22, 2023
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jun. 23, 2022	Jun. 22, 2023
MXA Signal Analyzer	Agilent	N9020A	MY49100060	Sep. 01, 2022	Aug. 31, 2023
Spectrum Analyzer	KEYSIGT	N9020B	MY60110172	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	JS0806-2	21F8060439	Sep. 01, 2022	Aug. 31, 2023
Temperature and Humidity Chamber	ZhengHang	ZH-QTH-1500	ZH2107264	Jun. 22, 2022	Jun. 21, 2023



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 (dB μ V)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

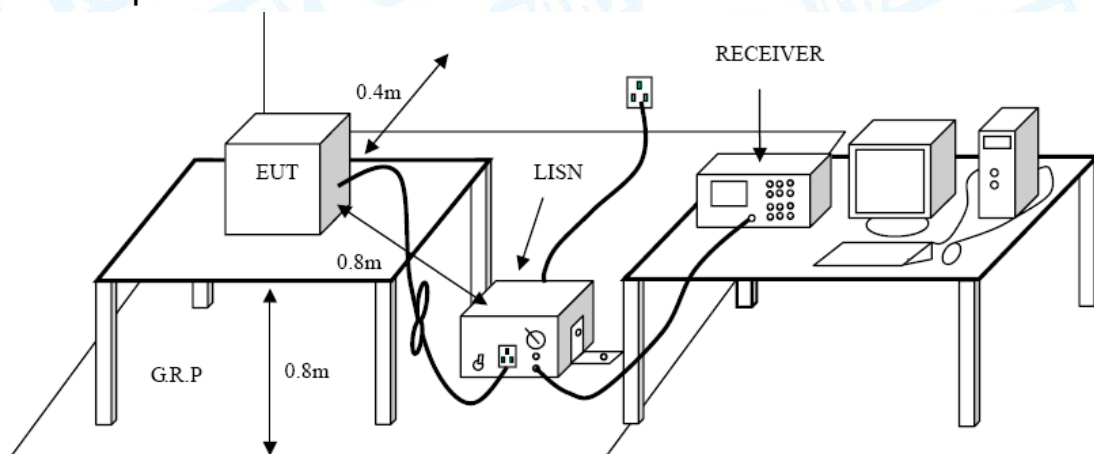
Notes:

(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

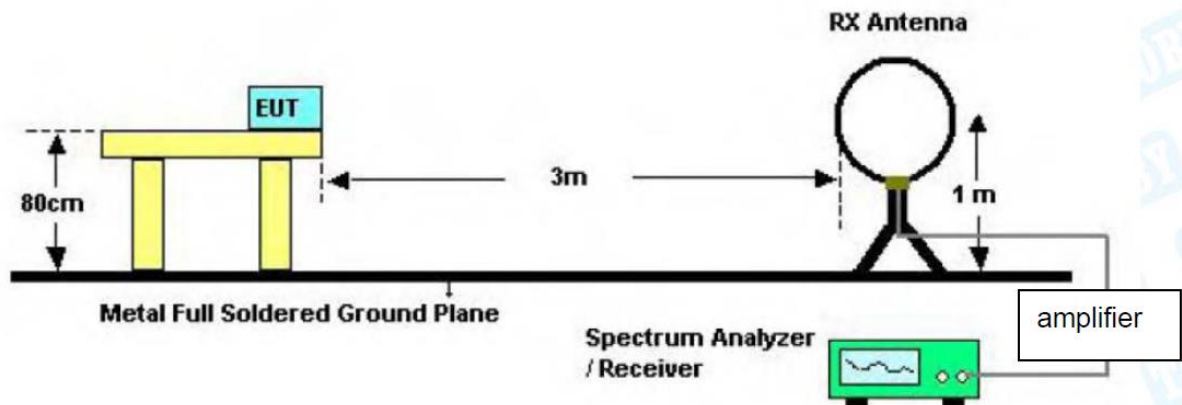


limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen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

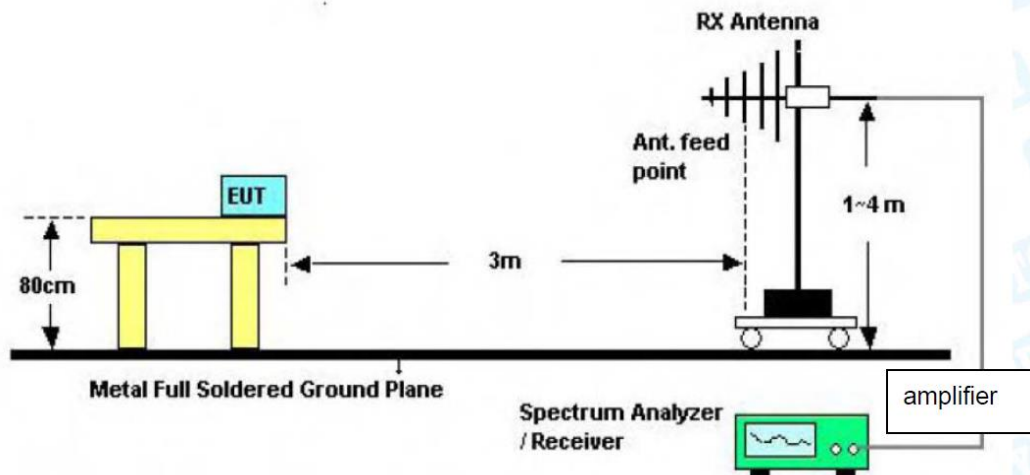


6.2 Test Setup

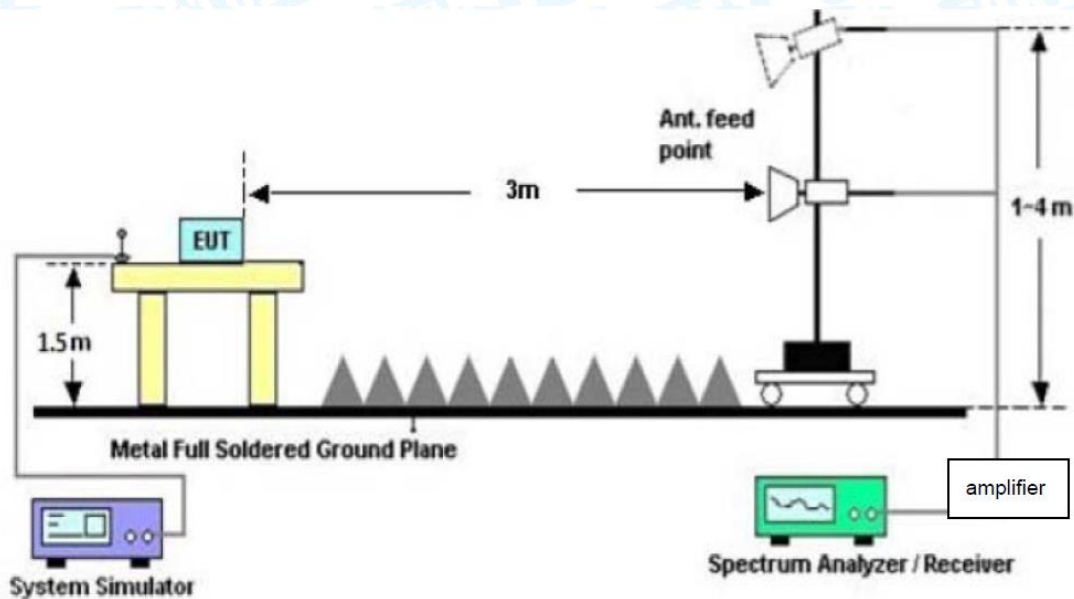
Radiated measurement



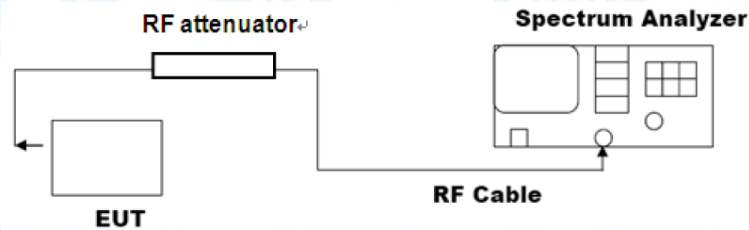
Below 30MHz Test Setup



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.



6.4 Deviation From Test Standard

No deviation

6.5 EUT Operating Mode

Please refer to the description of test mode.

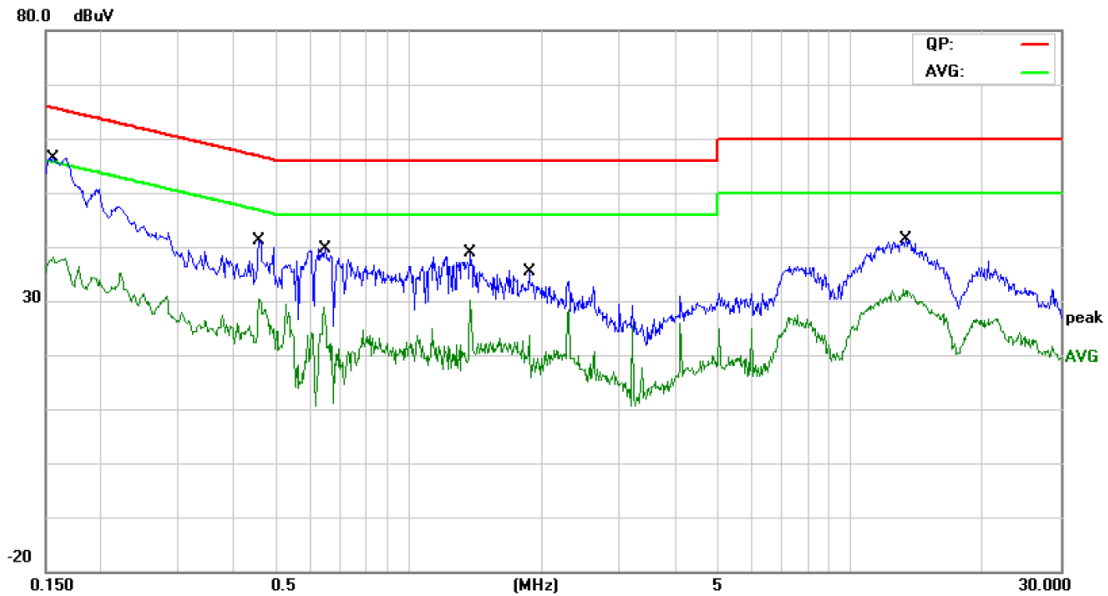
6.6 Test Data

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



Attachment A-- Conducted Emission Test Data

Temperature:	23.4°C	Relative Humidity:	45%
Test Voltage:	AC 120V/60Hz		
Terminal:	Line		
Test Mode:	Mode 1		
Remark:	Only worse case is reported.		



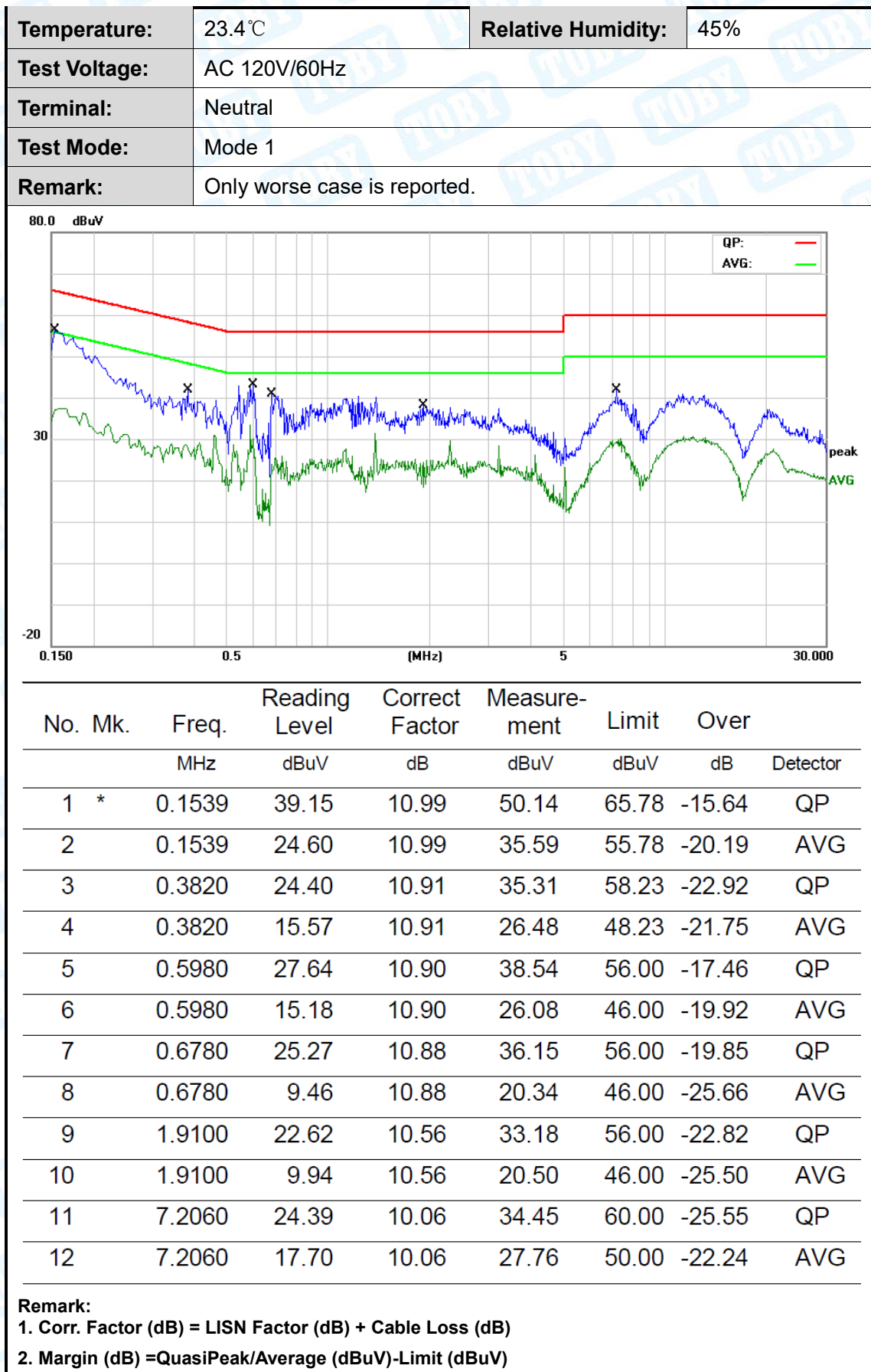
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1556	38.92	11.10	50.02	65.69	-15.67	QP
2		0.1556	25.74	11.10	36.84	55.69	-18.85	AVG
3		0.4580	25.68	10.92	36.60	56.73	-20.13	QP
4		0.4580	20.55	10.92	31.47	46.73	-15.26	AVG
5		0.6460	27.41	10.90	38.31	56.00	-17.69	QP
6		0.6460	16.32	10.90	27.22	46.00	-18.78	AVG
7		1.3779	24.51	10.62	35.13	56.00	-20.87	QP
8	*	1.3779	20.17	10.62	30.79	46.00	-15.21	AVG
9		1.8740	19.99	10.52	30.51	56.00	-25.49	QP
10		1.8740	11.66	10.52	22.18	46.00	-23.82	AVG
11		13.3700	25.85	10.26	36.11	60.00	-23.89	QP
12		13.3700	20.19	10.26	30.45	50.00	-19.55	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

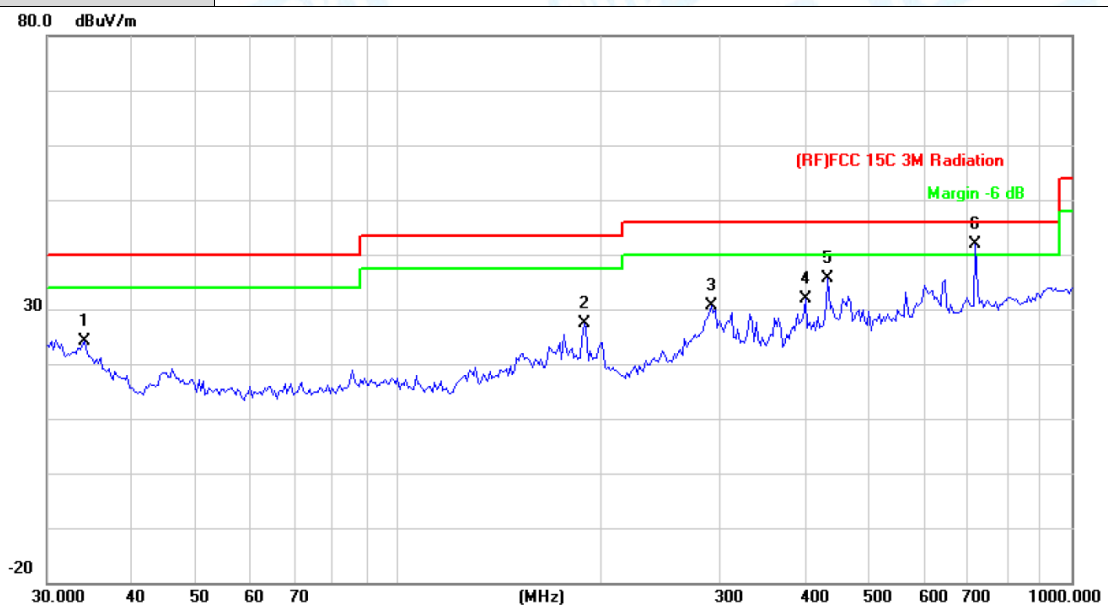
9 KHz~30 MHz

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:	23.5℃	Relative Humidity:	46%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	Mode 2 TX a Mode(5180MHz)		
Remark:	Only worse case is reported.		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		34.0365	36.45	-12.37	24.08	40.00	-15.92	peak
2		188.4125	42.74	-15.37	27.37	43.50	-16.13	peak
3		291.0360	41.46	-10.80	30.66	46.00	-15.34	peak
4		401.8385	38.70	-6.77	31.93	46.00	-14.07	peak
5		434.0651	43.20	-7.45	35.75	46.00	-10.25	peak
6	*	719.1995	44.33	-2.47	41.86	46.00	-4.14	peak

*: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:	23.5°C	Relative Humidity:	46%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	Mode 2 TX a Mode(5180MHz)		
Remark:	Only worse case is reported.		

80.0 dBuV/m

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		34.2760	43.50	-12.57	30.93	40.00	-9.07	peak
2		46.0164	47.81	-17.44	30.37	40.00	-9.63	peak
3		84.7019	46.41	-16.58	29.83	40.00	-10.17	peak
4		189.7385	44.09	-15.45	28.64	43.50	-14.86	peak
5	*	499.4247	45.25	-6.70	38.55	46.00	-7.45	peak
6		719.1995	37.91	-2.47	35.44	46.00	-10.56	peak

*: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 REPORT-----

