EMC TEST REPORT

Test item	: Digital Trunking Desktop Radio Scanner
Model No.	: WS1095
Order No.	: DTNC1601-00154
Date of receipt	: 2016-01-11
Test duration	: 2016-01-13 ~ 2016-03-05
Date of Issue	: 2016-03-23

Applicant : The Whistler Group, Inc.
168 Ayer Road, Littleton, MA 01460, USA

Test laboratory : DT&C Co., Ltd.
42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, South Korea 449-935

Test specification : ANSI C 63.4:2014
FCC Part 15 Subpart B
(Scanning receiver)

Test environment : Temperature : (16 ~ 19) °C,
Humidity : (38 ~ 45) % R.H.

Test result : ☒ Comply ☐ Not Comply

Tested by:

Engineer
DaeHwa Eun

Reviewed by:

Technical Manager
YoungKyu Shin

PRESIDENT OF DT&C Co., Ltd.

CONTENTS

1. General Remarks

This report contains the result of tests performed by:

Dt&C Co., Ltd.

Address : 42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, South Korea 449-935

http://www.dtnc.net

Tel: +82-31-321-2664 Fax: +82-31-321-1664

2. Test Laboratory

Dt&C Co., Ltd. has been accredited / filed / authorized by the agencies listed in the following table;

Certificate	Nation	Agency	Code	Mark
Accreditation	Korea	KOLAS	393	ISO/IEC 17025
Site Filing	USA	FCC	KR0034 101842 678747, 596748, 804488, 165783	Accredited 2.948 Listed
	Canada	IC	5740A-1 5740A-2	Registered
	Japan	VCCI	C-1427 R-1364, R-3385, R-4076, R-4180, T-1442, G-338, G754, G-815	Registered
Certification	Korea	KC	KR0034	Designation
	Germany	TUV	CARAT 13 11 86721 001	ISO/IEC 17025

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the “General requirements for the competent of calibration and testing laboratory”.

3. General Information of EUT

Kind of Equipment	Digital Trunking Desktop Radio Scanner
Model No.	WS1095
Add Model No	WS1098
Serial No	None
FCC ID	HSXSC11
Supplied Power for Test	120 V, 60 Hz
Applicant	The Whistler Group, Inc. 168 Ayer Road, Littleton, MA 01460, USA
Manufacturer	RDX, Inc 307 Daeryung Techno Twon 3, 115 Gasan Digital 2-ro, Guemcheon-gu, Seoul, Korea
Factory	Radix Telecom Phils., Industries Inc. P-IMES Bldg.2. Block 16, Phase IV Peza Rosario Cavite, Philippines

Related Submittal(s) / Grant(s)

Refer to Appendix 3 (Changed Item)

4. Test Summary

4.1 Applied standards and test results

Test Items	Applied Standards	Results
Conducted Disturbance	ANSI C63.4:2014	C
Radiated Disturbance	ANSI C63.4:2014	C
Antenna Power Conduction	ANSI C63.4:2014	C
C=Comply N/C=Not Comply N/T=Not Tested N/A=Not Applicable		

The data in this test report are traceable to the national or international standards.

4.2 Test environment and conditions

< WS1095 >

Test Items	Test date (YYYY-MM-DD)	Temp (℃)	Humidity (% R.H.)
Conducted Disturbance	2016-01-13	16	41
Radiated Disturbance	2016-01-20 2016-01-21	17 16	39 39
Antenna Power Conduction	2016-01-20	17	39

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Test Items	Test date (YYYY-MM-DD)	Temp (℃)	Humidity (% R.H.)
Conducted Disturbance	2016-02-26	17	38
Radiated Disturbance	2016-03-04 2016-03-05	17 19	39 45

4.3 Test result Summary

(1) Conducted Emission

< WS1095 >

Frequency [MHz]	Phase	Result [dBμV]	Detector	Limit [dBμV]	Margin [dB]
0.17098	**L**	**62.0**	Quasi-Peak	**64.9**	**2.9**

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Frequency [MHz]	Phase	Result [dBμV]	Detector	Limit [dBμV]	Margin [dB]
0.15172	**L**	**52.8**	Quasi-Peak	**65.9**	**13.1**

(2) Radiated Emission

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Frequency [MHz]	Pol.	Result [dB(μV/m)]	Detector	Limit [dB(μV/m)]	Margin [dB]
787.860	**H**	**38.0**	Quasi-Peak	**46.0**	**8.0**

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Frequency [MHz]	Pol.	Result [dB(μV/m)]	Detector	Limit [dB(μV/m)]	Margin [dB]
52.674	**H**	**22.8**	Quasi-Peak	**30.0**	**7.2**

5. Test Set-up and operation mode

5.1 Principle of Configuration Selection

Emission : The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

5.2 Test Operation Mode

- MODE 1: The EUT was set to constantly scan all bands.
- MODE 2: The EUT was set to connect USB cable to the notebook PC for receiving data and status.

5.3 Support Equipment Used

Unit	Model No.	Serial No.	Manufacturer	CABLE				Back shell	FCC ID
				Connect type	Length (m)	shield	With Ferrite		
Notebook PC	X502C	D5N0CV821534227	ASUS	POWER USB	1.8 0.3	Non-shield Shield	X	Plastic Plastic	DOC
Notebook PC Adaptor	ADP-65GD B	69YW34N0VW6	LITE-ON TECHNOLOGY	POWER POWER	1.8 1.5	Non-shield Non-shield	X	Plastic Plastic	DOC
Headset	COV-903	N/A	COSY	STEREO	2.0	Non-shield	X	Plastic	DOC
ADAPTOR	GQ15-138060-AU	N/A	3YE	POWER	1.8	Non-shield	X	Plastic	DOC

6. Test Results : Emission

6.1 Conducted Disturbance

6.1.1 Measurement Procedure

In the range of 0.15 MHz to 30 MHz, the conducted disturbance was measured and set-up was made accordance with **ANSI C63.4.**

If the EUT is table top equipment, it was placed on a wooden table with a height of 0.8 m above the reference ground plane and 0.4 m from the conducting wall of the shielded room.

Also if the EUT is floor-standing equipment, it was placed on a non-conducted support with a height up to 0.15 m above the reference ground plane.

Connect the EUT's power source lines to the PC power through the LISN. All the other peripherals are connected to the 2nd LISN, if any.

Unused measuring port of the LISN was resistively terminated by 50 ohm terminator.

The measuring port of the LISN for EUT was connected to spectrum analyzer.

Using conducted emission test software, the emissions were scanned with peak detector mode.

After scanning over the frequency range, suspected emissions were selected to perform final measurement. When performing final measurement, the receiver was used which has Quasi-Peak detector and Average detector.

By varying the configuration of the test sample and the cable routing it was attempted to maximize the emission.

For further description of the configuration refer to the picture of the test set-up.

6.1.2 Limit for Conducted Disturbance

(1) Conducted disturbance at mains ports.

Frequency range (MHz)	Limits dB(μV)			
	Quasi-peak		Average	
	Class A	Class B	Class A	Class B
0.15 to 0.50	79	66 to 56	66	56 to 46
0.50 to 5	73	56	60	46
5 to 30		60		50
Note 1 The lower limit shall apply at the transition frequencies. Note 2 The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

Note) 1. Emission Level = Reading Value + Correction Factor.
2. Correction Factor = Cable Loss + Insertion Loss of LISN
3. Margin = Limit - Emission level

Test Result

< WS1095 _ MODE 1 >

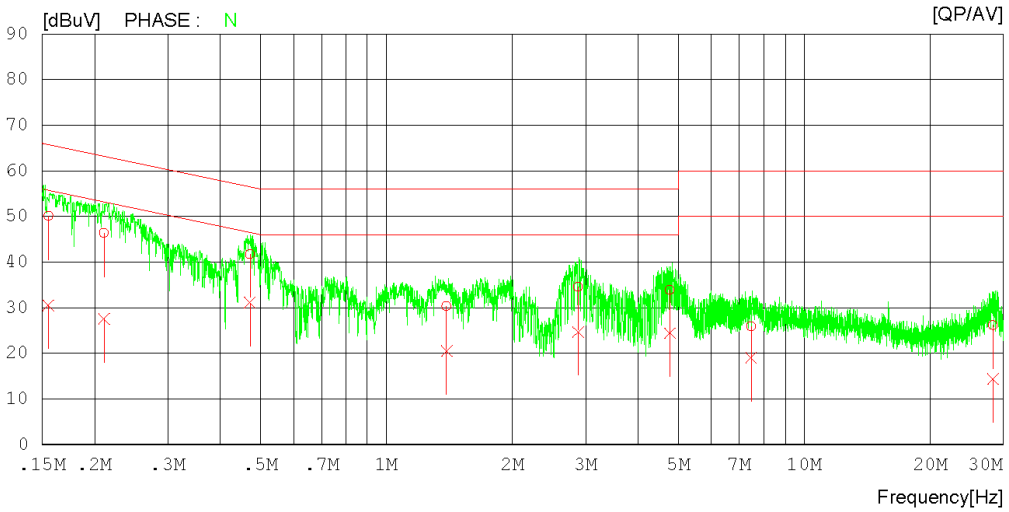
Results of Conducted Emission

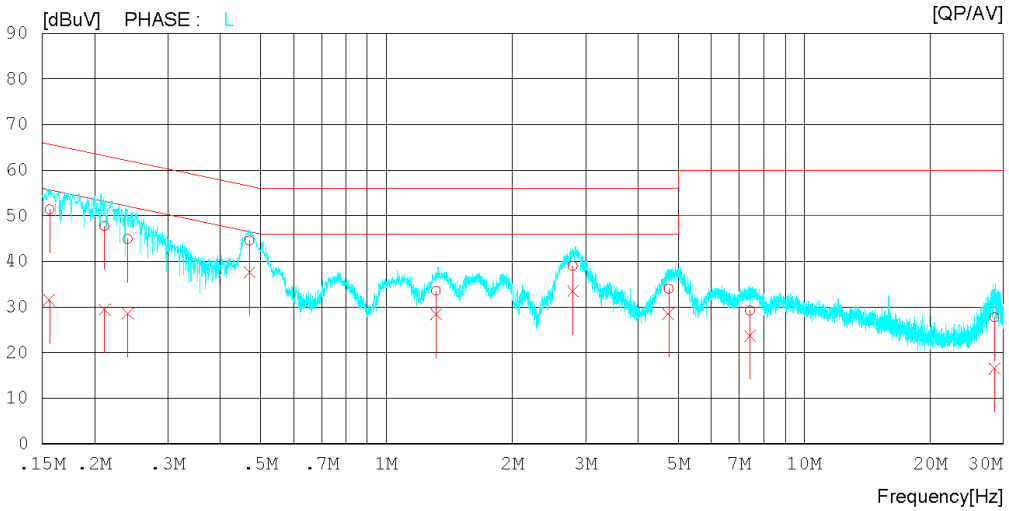
DTNC

Date : 2016-01-13

Order No.	:	DTNC1601-00154	Referrence No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi.	:	16 'C 41 % R.H.
Test Condition	:	1	Operator	:	
Memo	:				

LIMIT : CISPR22_B QP
CISPR22_B AV





Results of Conducted Emission

DTNC

Date : 2016-01-13

Order No.	:	DTNC1601-00154	Referrence No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi.	:	16 'C 41 % R.H.
Test Condition	:	1	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV

NO	FREQ	READING QP	READING AV	C.FACTOR	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.15520	40.0	20.4	10.1	50.1	30.5	65.7	55.7	15.6	25.2	N
2	0.21089	36.2	17.5	10.1	46.3	27.6	63.2	53.2	16.9	25.6	N
3	0.47109	31.6	21.0	10.1	41.7	31.1	56.5	46.5	14.8	15.4	N
4	1.39320	20.2	10.3	10.2	30.4	20.5	56.0	46.0	25.6	25.5	N
5	2.87760	24.4	14.5	10.2	34.6	24.7	56.0	46.0	21.4	21.3	N
6	4.76940	23.7	14.3	10.2	33.9	24.5	56.0	46.0	22.1	21.5	N
7	7.46460	15.5	8.6	10.4	25.9	19.0	60.0	50.0	34.1	31.0	N
8	28.30580	15.3	3.6	10.8	26.1	14.4	60.0	50.0	33.9	35.6	N
9	0.15601	41.2	21.4	10.1	51.3	31.5	65.7	55.7	14.4	24.2	L
10	0.21147	37.6	19.4	10.1	47.7	29.5	63.1	53.1	15.4	23.6	L
11	0.24057	34.7	18.5	10.1	44.8	28.6	62.1	52.1	17.3	23.5	L
12	0.47040	34.4	27.5	10.1	44.5	37.6	56.5	46.5	12.0	8.9	L
13	1.31640	23.3	18.1	10.2	33.5	28.3	56.0	46.0	22.5	17.7	L
14	2.79480	28.7	23.2	10.2	38.9	33.4	56.0	46.0	17.1	12.6	L
15	4.73380	23.6	18.1	10.3	33.9	28.4	56.0	46.0	22.1	17.6	L
16	7.42500	18.8	13.2	10.4	29.2	23.6	60.0	50.0	30.8	26.4	L
17	28.56920	16.4	5.3	11.2	27.6	16.5	60.0	50.0	32.4	33.5	L

< WS1095 _ MODE 2 >

Results of Conducted Emission

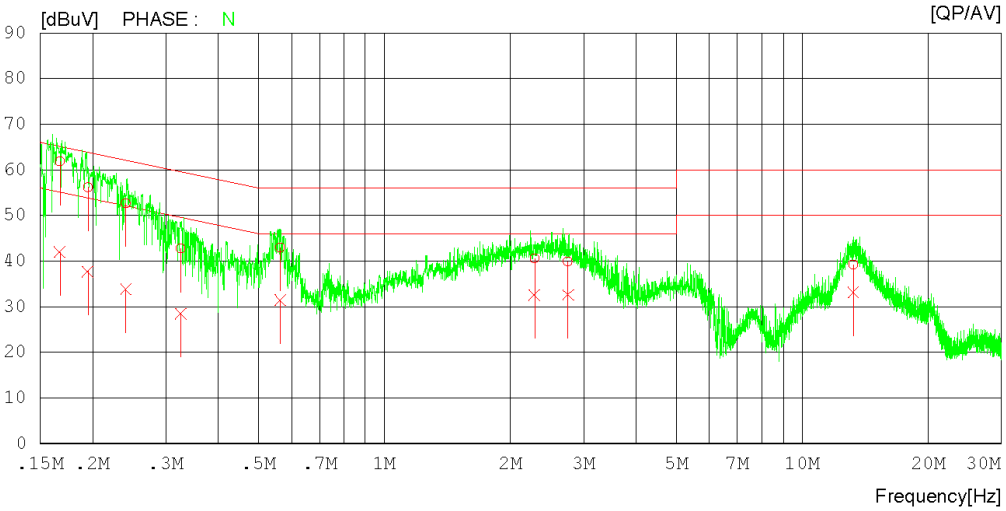
DTNC

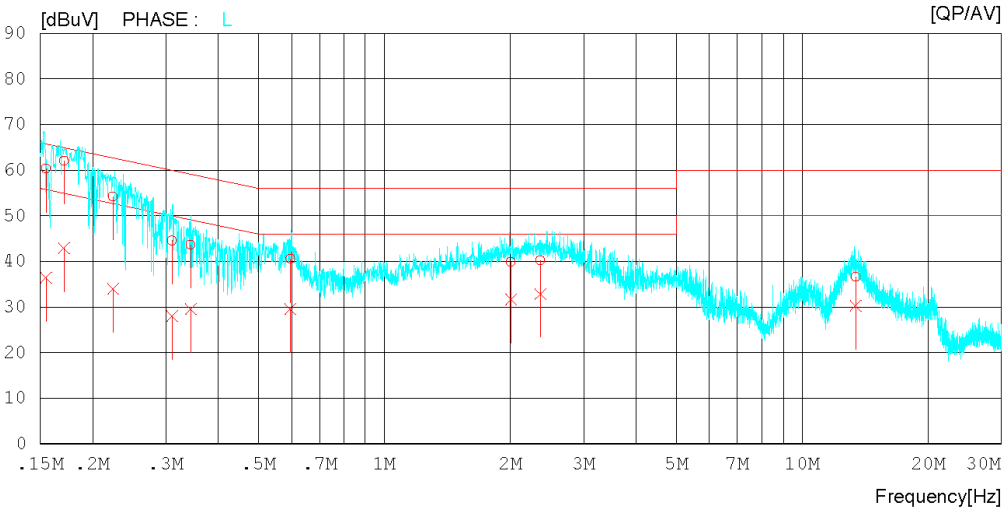
Date : 2016-01-13

Order No.	:	DTNC1601-00154	Referrence No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi.	:	16 'C 41 % R.H.
Test Condition	:	2	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV





Results of Conducted Emission

DTNC

Date : 2016-01-13

Order No.	:	DTNC1601-00154	Referrence No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi.	:	16 'C 41 % R.H.
Test Condition	:	2	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV

NO	FREQ	READING QP	READING AV	C.FACTOR	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.16708	51.7	31.9	10.1	61.8	42.0	65.1	55.1	3.3	13.1	N
2	0.19492	46.1	27.6	10.1	56.2	37.7	63.8	53.8	7.6	16.1	N
3	0.24030	42.5	23.7	10.1	52.6	33.8	62.1	52.1	9.5	18.3	N
4	0.32493	32.6	18.3	10.1	42.7	28.4	59.6	49.6	16.9	21.2	N
5	0.56286	32.9	21.3	10.1	43.0	31.4	56.0	46.0	13.0	14.6	N
6	2.28640	30.4	22.3	10.2	40.6	32.5	56.0	46.0	15.4	13.5	N
7	2.74760	29.7	22.4	10.2	39.9	32.6	56.0	46.0	16.1	13.4	N
8	13.25300	28.6	22.6	10.6	39.2	33.2	60.0	50.0	20.8	16.8	N
9	0.15498	50.2	26.3	10.1	60.3	36.4	65.7	55.7	5.4	19.3	L
10	0.17098	51.9	32.8	10.1	62.0	42.9	64.9	54.9	2.9	12.0	L
11	0.22400	44.1	23.9	10.1	54.2	34.0	62.7	52.7	8.5	18.7	L
12	0.31013	34.4	17.8	10.1	44.5	27.9	60.0	50.0	15.5	22.1	L
13	0.34371	33.5	19.5	10.1	43.6	29.6	59.1	49.1	15.5	19.5	L
14	0.59526	30.4	19.5	10.1	40.5	29.6	56.0	46.0	15.5	16.4	L
15	2.00740	29.7	21.4	10.2	39.9	31.6	56.0	46.0	16.1	14.4	L
16	2.36400	30.0	22.6	10.2	40.2	32.8	56.0	46.0	15.8	13.2	L
17	13.42400	25.8	19.5	10.8	36.6	30.3	60.0	50.0	23.4	19.7	L

< WS1098 _ MODE 1 >

Results of Conducted Emission

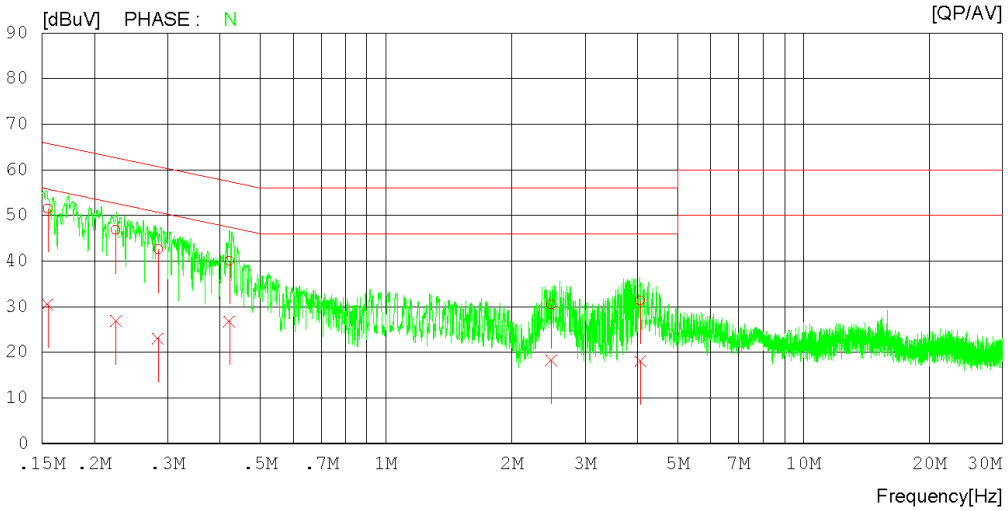
DTNC

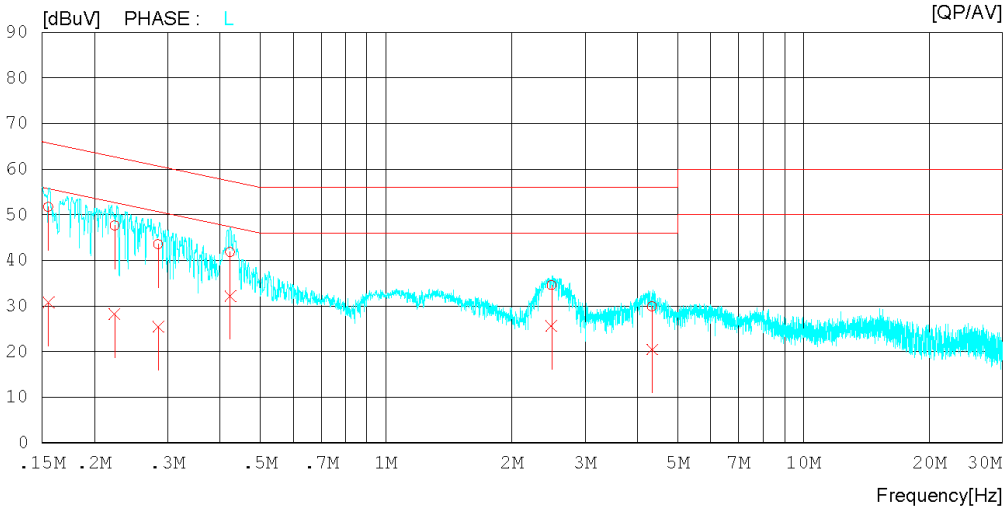
Date : 2016-02-26

Order No.	:		Referrence No.	:	
Model No.	:	WS1098	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi.	:	17 'C 38 % R.H.
Test Condition	:	1	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV





Results of Conducted Emission

DTNC

Date : 2016-02-26

Order No. :
Model No. : WS1098
Serial No. :
Test Condition : 1

Referrence No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 17 'C 38 % R.H.
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV

NO	FREQ	READING QP	READING AV	C.FACTOR	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.15471	41.4	20.4	10.1	51.5	30.5	65.7	55.7	14.2	25.2	N
2	0.22519	36.7	16.7	10.1	46.8	26.8	62.6	52.6	15.8	25.8	N
3	0.28425	32.5	13.0	10.1	42.6	23.1	60.7	50.7	18.1	27.6	N
4	0.42143	29.9	16.7	10.1	40.0	26.8	57.4	47.4	17.4	20.6	N
5	2.48840	20.2	8.0	10.2	30.4	18.2	56.0	46.0	25.6	27.8	N
6	4.06480	21.2	7.9	10.2	31.4	18.1	56.0	46.0	24.6	27.9	N
7	0.15523	41.6	20.6	10.1	51.7	30.7	65.7	55.7	14.0	25.0	L
8	0.22350	37.5	18.1	10.1	47.6	28.2	62.7	52.7	15.1	24.5	L
9	0.28454	33.4	15.4	10.1	43.5	25.5	60.7	50.7	17.2	25.2	L
10	0.42306	31.7	22.1	10.1	41.8	32.2	57.4	47.4	15.6	15.2	L
11	2.49160	24.3	15.4	10.2	34.5	25.6	56.0	46.0	21.5	20.4	L
12	4.34080	19.6	10.2	10.2	29.8	20.4	56.0	46.0	26.2	25.6	L

< WS1098 _ MODE 2 >

Results of Conducted Emission

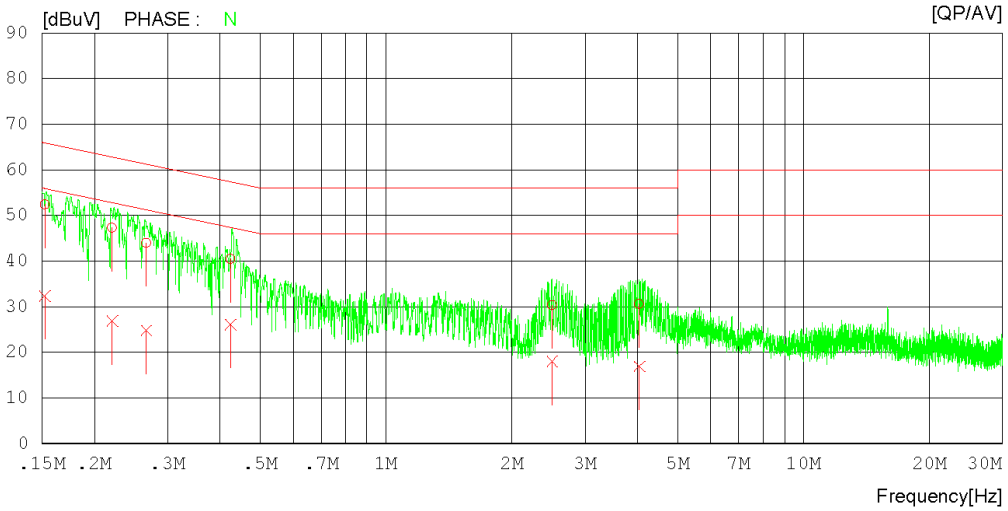
DTNC

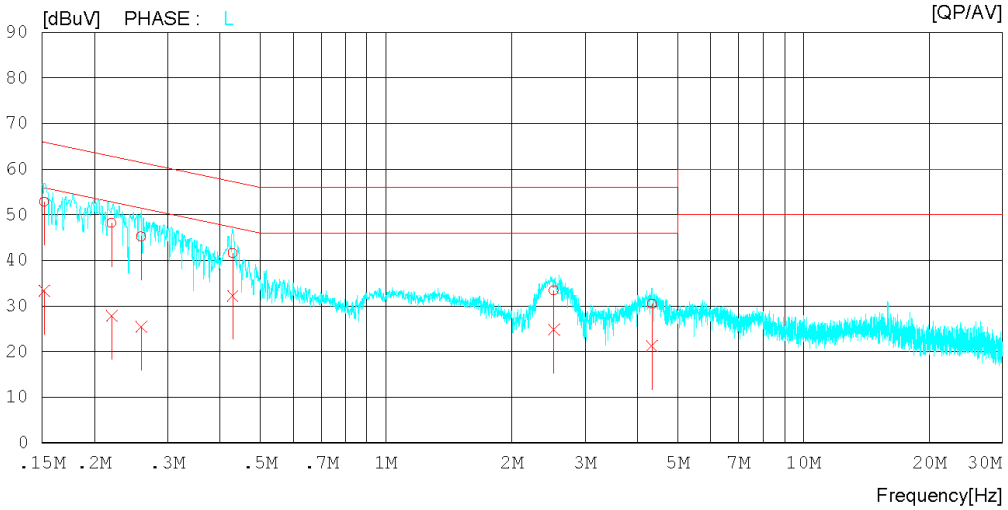
Date : 2016-02-26

Order No.	:		Referrence No.	:	
Model No.	:	WS1098	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi.	:	17 'C 38 % R.H.
Test Condition	:	2	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV





Results of Conducted Emission

DTNC

Date : 2016-02-26

Order No. :
Model No. : WS1098
Serial No. :
Test Condition : 2

Referrence No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 17 'C 38 % R.H.
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV

NO	FREQ	READING QP	READING AV	C.FACTOR	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.15230	42.3	22.3	10.1	52.4	32.4	65.9	55.9	13.5	23.5	N
2	0.22084	37.2	16.8	10.1	47.3	26.9	62.8	52.8	15.5	25.9	N
3	0.26644	33.9	14.7	10.1	44.0	24.8	61.2	51.2	17.2	26.4	N
4	0.42479	30.4	16.0	10.1	40.5	26.1	57.4	47.4	16.9	21.3	N
5	2.50000	20.2	7.8	10.2	30.4	18.0	56.0	46.0	25.6	28.0	N
6	4.04140	20.3	6.7	10.2	30.5	16.9	56.0	46.0	25.5	29.1	N
7	0.15172	42.7	23.2	10.1	52.8	33.3	65.9	55.9	13.1	22.6	L
8	0.22008	38.0	17.8	10.1	48.1	27.9	62.8	52.8	14.7	24.9	L
9	0.25917	35.1	15.4	10.1	45.2	25.5	61.5	51.5	16.3	26.0	L
10	0.42910	31.4	22.1	10.1	41.5	32.2	57.3	47.3	15.8	15.1	L
11	2.52440	23.2	14.5	10.2	33.4	24.7	56.0	46.0	22.6	21.3	L
12	4.33240	20.2	11.0	10.2	30.4	21.2	56.0	46.0	25.6	24.8	L

6.2 Radiated Disturbance

6.2.1 Measurement Procedure

The radiated disturbance was measured and set-up was made accordance with **ANSI C63.4.**

If the EUT is tabletop equipment, it was placed on a wooden table with a height of 0.8 m above the reference ground plane and 3 m or 10 m away from the interference receiving antenna in the **10m semi-anechoic chamber.**

Also if the EUT is floor-standing equipment, it was placed on a non-conducted support with a height up to 0.15 m above the reference ground plane.

Rotate the EUT from (0 - 360)° and position the receiving antenna at heights from (1 - 4) m above the reference ground plane continuously to determine associated with higher emission levels and record them.

The measurement was made in both the vertical and horizontal polarization, and the maximum value is presented in the report.

For below 1 GHz frequency range, Quasi-Peak detector with 120 kHz RBW was used.

Peak detector with 1 MHz RBW and 1 MHz VBW were used for above 1 GHz frequency range, also used linear average detector with defined in CISPR 16-1-1.

For further description of the configuration refer to the picture of the test set-up.

6.2.2 Limit for Radiated Disturbance

- The test frequency range of Radiated Disturbance measurements are listed below.

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 108	1 000
108 – 500	2 000
500 – 1 000	5 000
Above 1 000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

(1) Limit for Radiated Emission below 1 000 MHz

Frequency range (MHz)	Class A Equipment (10 m distance)	Class B Equipment (3 m distance)
	Quasi-peak (dBμV/m)	Quasi-peak (dBμV/m)
30 to 88	39.1	40
88 to 216	43.5	43.5
216 to 960	46.4	46
960 to 1 000	49.5	54
Note 1 The lower limit shall apply at the transition frequency. Note 2 Additional provisions may be required for cases where interference occurs. Note 3 According to 15.109(g), as an alternative to the radiated emission limit shown above, digital devices may be shown to comply with the standards(CISPR), Pub. 22 shown as below.		
Frequency range (MHz)	**Class A Equipment (10 m distance)**	**Class B Equipment (10 m distance)**
	Quasi-peak (dBμV/m)	**Quasi-peak (dBμV/m)**
30 to 230	40	30
230 to 1 000	47	37

(2) Limits for Radiated Emission above 1 000 MHz at a measuring distance of 3 m

Frequency (GHz)	Class A Equipment		Class B Equipment	
	Peak (dBμV/m)	Average (dBμV/m)	Peak (dBμV/m)	Average (dBμV/m)
1 to 40	80	60	74	54

Note)1. Emission Level = Reading Value + loss - gain + Ant Factor
2. Margin = Limit - Emission level
3. Loss = Cable loss, Gain = Amp gain, Ant Factor = Antenna Factor

WS1095 _ < 30 MHz ~ 1 GHz _ MODE 1 >

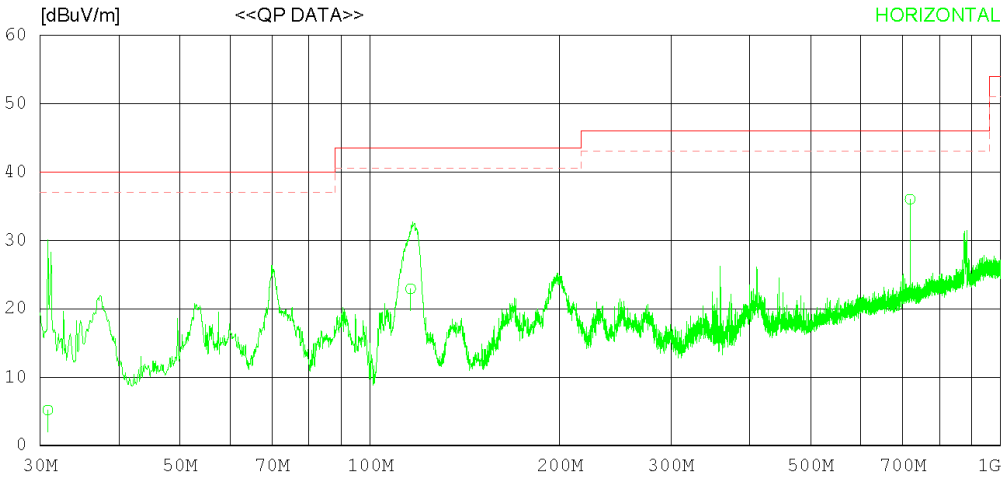
RADIATED EMISSION

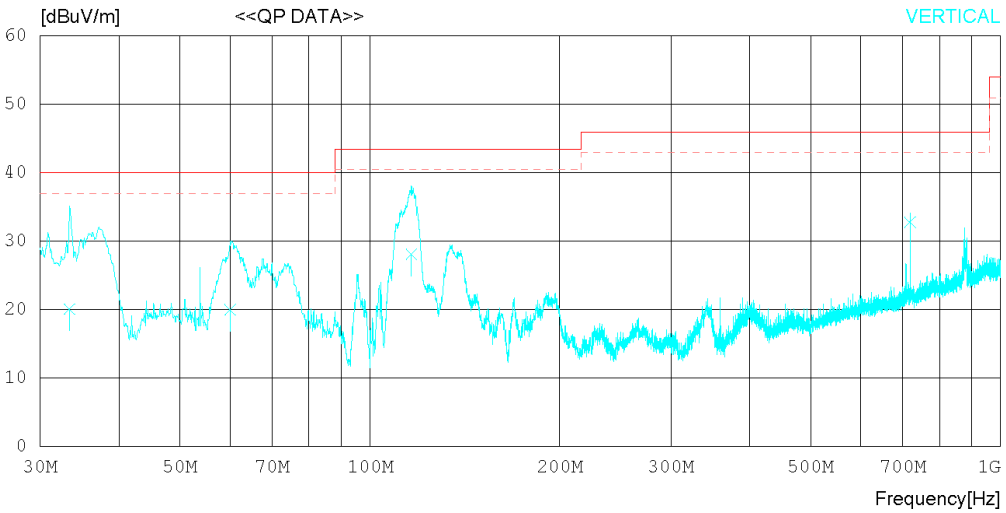
Date : 2016-01-21

Order No.	:	DTNC1601-00154	Reference No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	16 'C 39 % R.H.
Test Condition	:	SCAN	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB





RADIATED EMISSION

Date : 2016-01-21

Order No.	:	DTNC1601-00154	Reference No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	16 'C 39 % R.H.
Test Condition	:	SCAN	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	30.849	22.0	9.3	0.5	26.6	5.2	40.0	34.8	302	97
2	115.992	37.8	10.9	0.8	26.6	22.9	43.5	20.6	328	170
3	718.685	38.1	21.3	2.7	26.1	36.0	46.0	10.0	126	292
----- Vertical ------										
4	33.395	37.0	9.2	0.5	26.6	20.1	40.0	19.9	100	36
5	60.070	34.3	11.7	0.6	26.6	20.0	40.0	20.0	100	207
6	116.354	42.9	11.0	0.8	26.6	28.1	43.5	15.4	100	112
7	718.685	34.9	21.3	2.7	26.1	32.8	46.0	13.2	100	169

WS1095 _ < (1 ~ 6) GHz _ Peak _ MODE 1 >

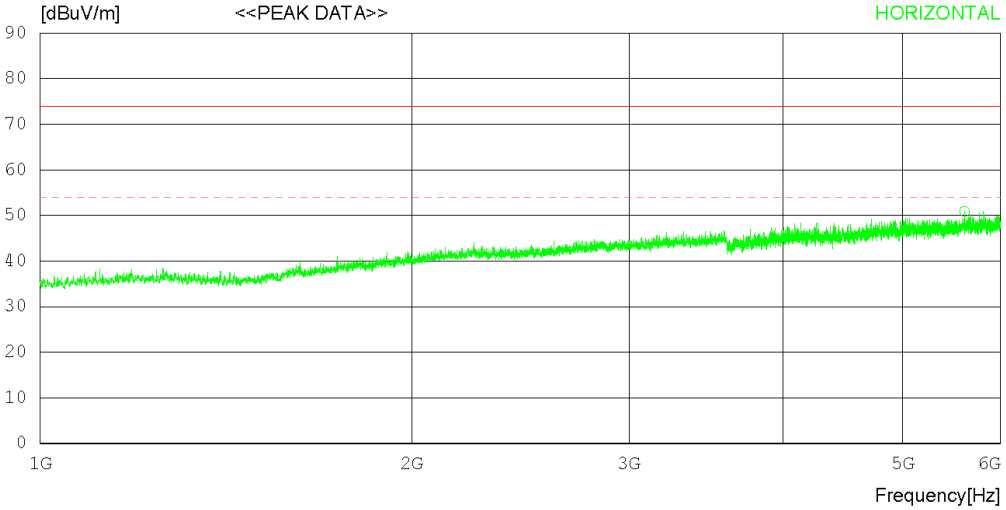
RADIATED EMISSION

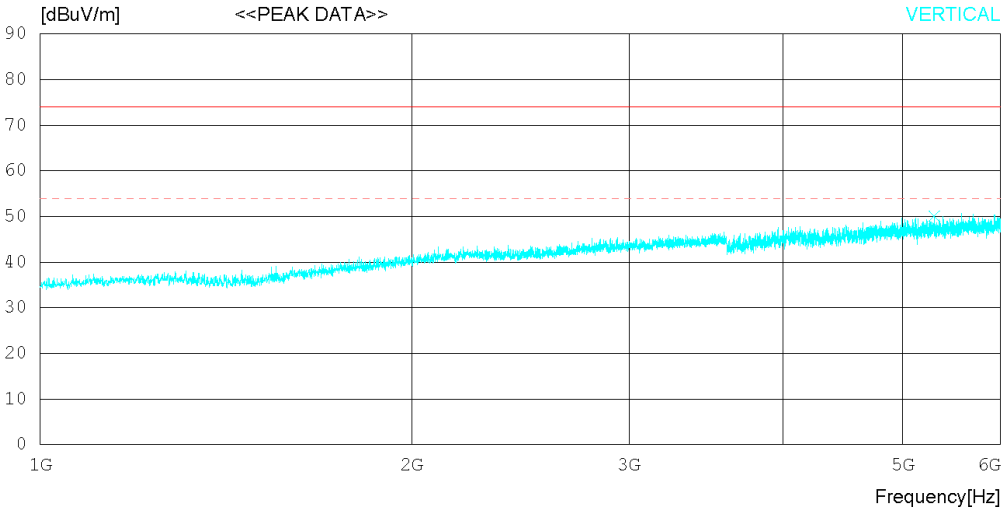
Date : 2016-01-20

Order No.	:	DTNC1601-00154	Reference No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	17 'C 39 % R.H.
Test Condition	:	SCAN	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)





RADIATED EMISSION

Date : 2016-01-20

Order No.	:	DTNC1601-00154	Reference No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	17 'C 39 % R.H.
Test Condition	:	SCAN	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	5610.000	54.8	34.9	8.1	46.9	50.9	74.0	23.1	100	163
----- Vertical ------										
2	5302.500	54.3	35.0	7.9	47.1	50.1	74.0	23.9	100	358

WS1095 _ < (1 ~ 6) GHz _ Average _ MODE 1 >

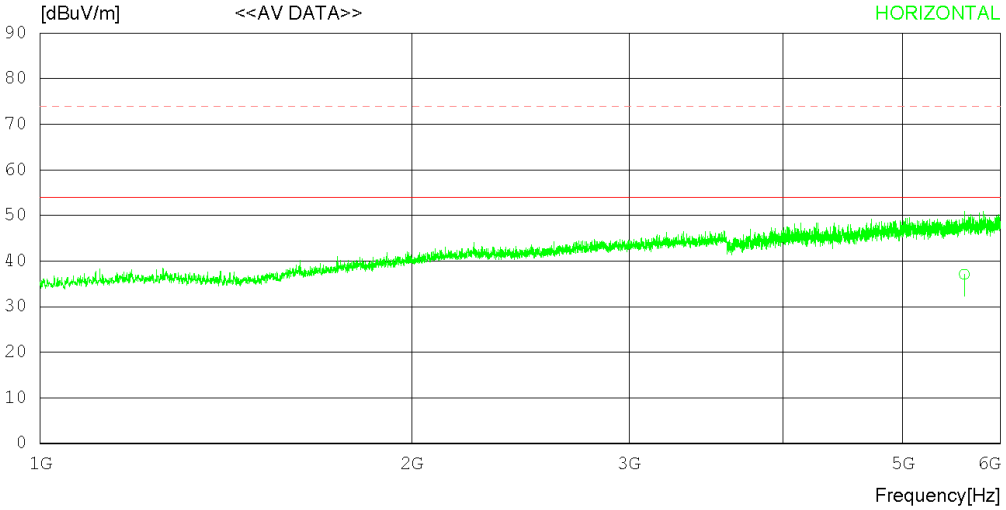
RADIATED EMISSION

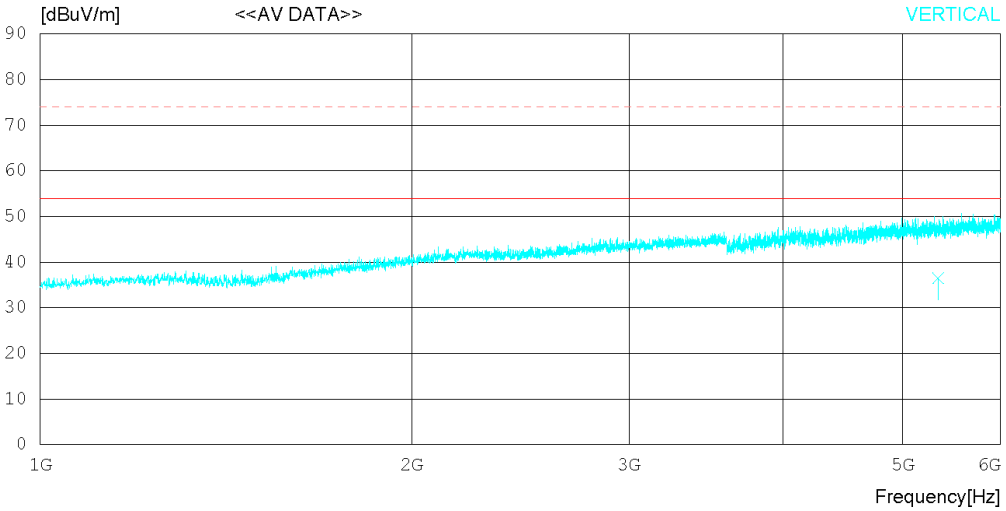
Date : 2016-01-20

Order No.	:	DTNC1601-00154	Reference No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	17 'C 39 % R.H.
Test Condition	:	SCAN	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Avg)
FCC Part15 Subpart.B Class B (3m) - 18G(Peak)





RADIATED EMISSION

Date : 2016-01-20

Order No.	:	DTNC1601-00154	Reference No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	17 'C 39 % R.H.
Test Condition	:	SCAN	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Avg)
FCC Part15 Subpart.B Class B (3m) - 18G(Peak)

No.	FREQ [MHz]	READING AV [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	5607.469	41.0	34.9	8.1	46.9	37.1	54.0	16.9	100	163
----- Vertical ------										
2	5339.813	40.7	34.9	8.0	47.1	36.5	54.0	17.5	100	300

WS1095 _ < 30 MHz ~ 1 GHz _ MODE 2 >

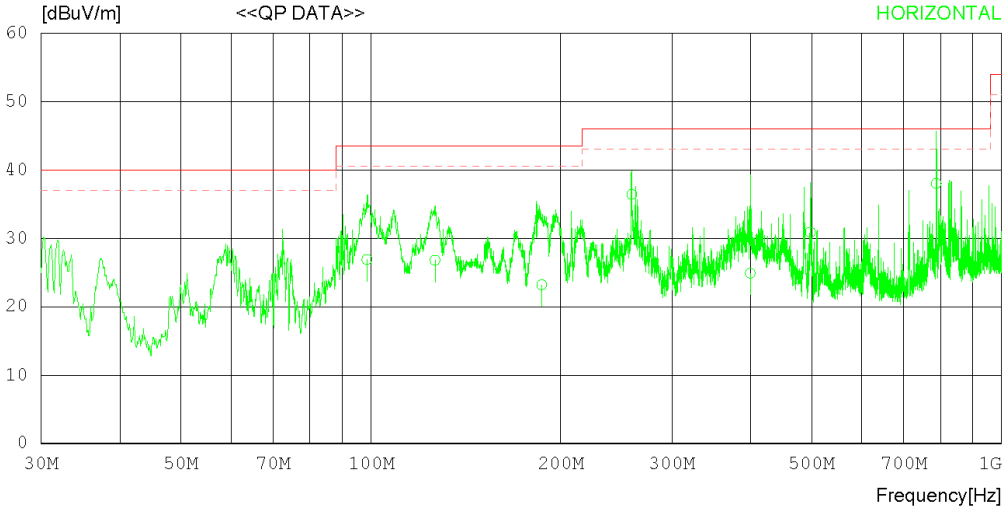
RADIATED EMISSION

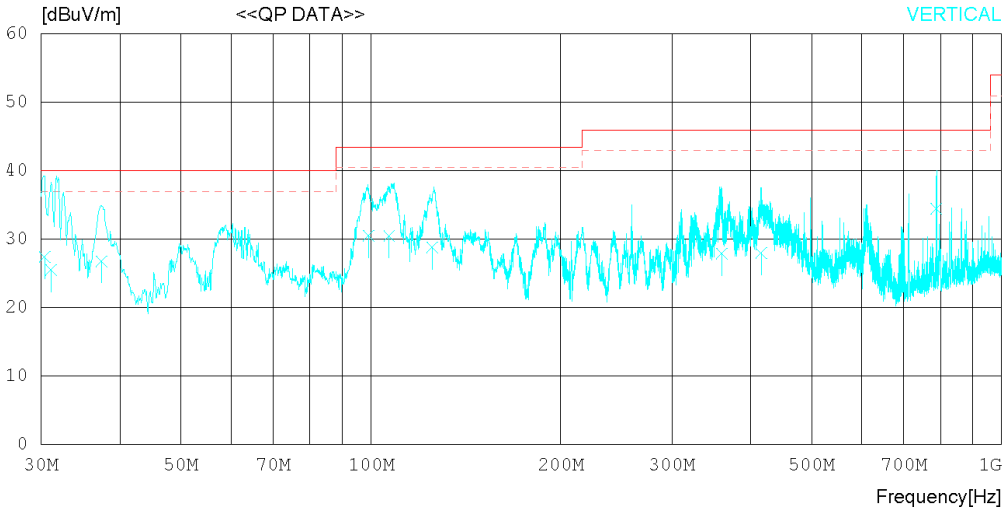
Date : 2016-01-21

Order No.	:	DTNC1601-00154	Reference No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	16 'C 39 % R.H.
Test Condition	:	PC/IF	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB





RADIATED EMISSION

Date : 2016-01-21

Order No.	:	DTNC1601-00154	Reference No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	16 'C 39 % R.H.
Test Condition	:	PC/IF	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	98.505	44.0	8.7	0.8	26.6	26.9	43.5	16.6	231	236
2	126.392	40.7	11.8	0.9	26.6	26.8	43.5	16.7	235	37
3	186.529	37.6	10.9	1.2	26.5	23.2	43.5	20.3	304	85
4	259.174	49.4	12.0	1.4	26.4	36.4	46.0	9.6	100	27
5	399.439	33.7	15.7	1.8	26.3	24.9	46.0	21.1	301	96
6	497.354	37.5	17.6	2.1	26.3	30.9	46.0	15.1	301	0
7	787.860	39.0	22.2	2.9	26.1	38.0	46.0	8.0	201	359
----- Vertical ------										
8	30.364	44.2	9.3	0.5	26.6	27.4	40.0	12.6	100	272
9	31.107	42.3	9.3	0.5	26.6	25.5	40.0	14.5	100	197
10	37.377	43.2	9.7	0.5	26.6	26.8	40.0	13.2	100	62
11	99.170	47.5	8.8	0.8	26.6	30.5	43.5	13.0	100	231
12	106.880	46.5	9.8	0.8	26.6	30.5	43.5	13.0	100	126
13	125.084	42.8	11.7	0.9	26.6	28.8	43.5	14.7	100	40
14	360.015	37.9	14.6	1.7	26.3	27.9	46.0	18.1	100	207
15	415.715	36.4	16.1	1.8	26.3	28.0	46.0	18.0	100	146
16	787.959	35.5	22.2	2.9	26.1	34.5	46.0	11.5	199	56

WS1095 _ < (1 ~ 6) GHz _ Peak _ MODE 2 >

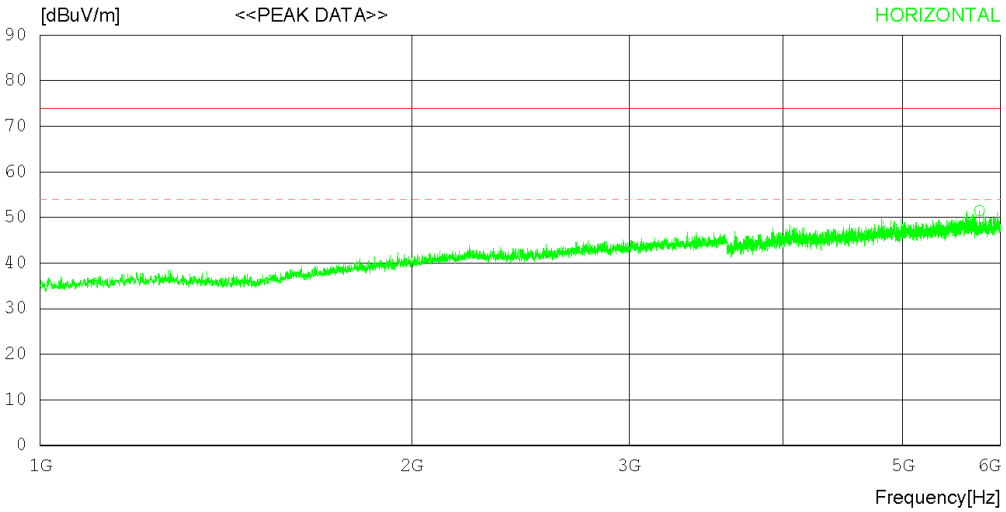
RADIATED EMISSION

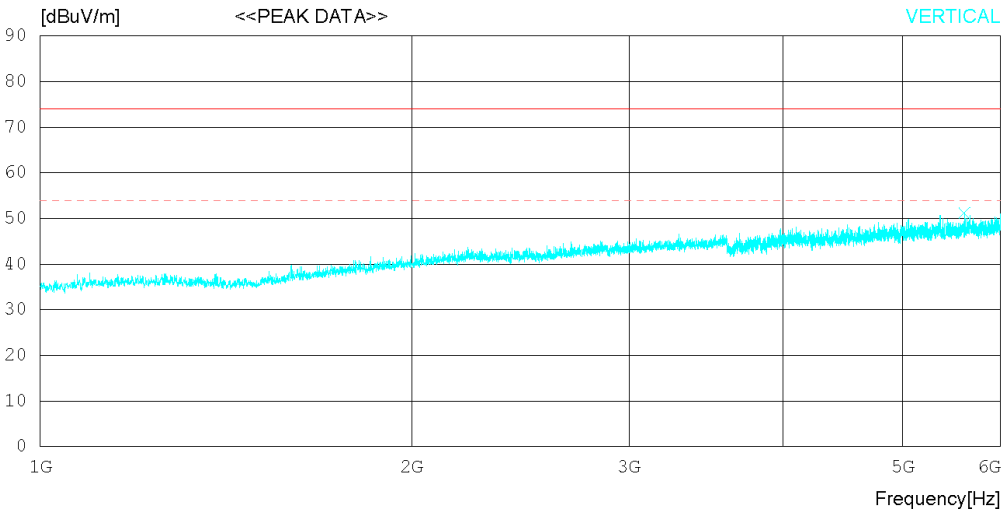
Date : 2016-01-20

Order No.	:	DTNC1601-00154	Reference No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	17 'C 39 % R.H.
Test Condition	:	PC/IF	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)





RADIATED EMISSION

Date : 2016-01-20

Order No.	:	DTNC1601-00154	Reference No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	17 'C 39 % R.H.
Test Condition	:	PC/IF	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	5768.125	55.0	35.1	8.2	46.8	51.5	74.0	22.5	100	1
----- Vertical ------										
2	5609.375	55.1	34.9	8.1	46.9	51.2	74.0	22.8	100	358

WS1095 _ < (1 ~ 6) GHz _ Average _ MODE 2 >

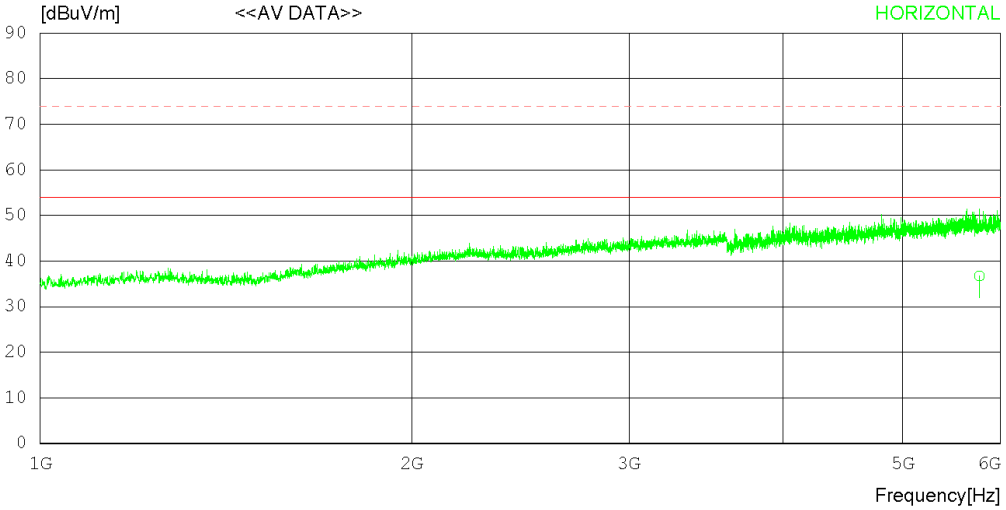
RADIATED EMISSION

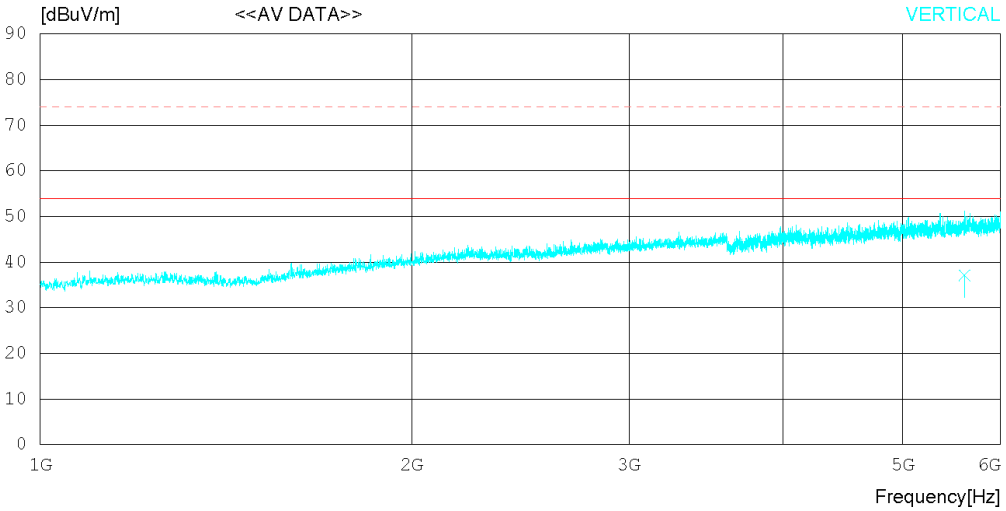
Date : 2016-01-20

Order No.	:	DTNC1601-00154	Reference No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	17 'C 39 % R.H.
Test Condition	:	PC/IF	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Avg)
FCC Part15 Subpart.B Class B (3m) - 18G(Peak)





RADIATED EMISSION

Date : 2016-01-20

Order No.	:	DTNC1601-00154	Reference No.	:	
Model No.	:	WS1095	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	17 'C 39 % R.H.
Test Condition	:	PC/IF	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Avg)
FCC Part15 Subpart.B Class B (3m) - 18G(Peak)

No.	FREQ [MHz]	READING AV [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	5768.125	40.2	35.1	8.2	46.8	36.7	54.0	17.3	100	164
----- Vertical ------										
2	5610.654	41.0	34.9	8.1	46.9	37.1	54.0	16.9	100	358

WS1098 _ < 30 MHz ~ 1 GHz _ MODE 1 >

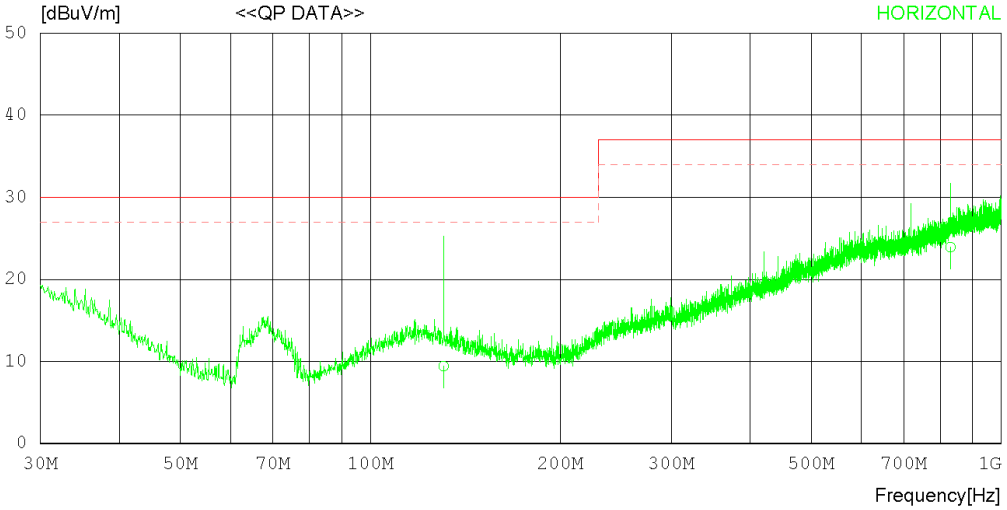
RADIATED EMISSION

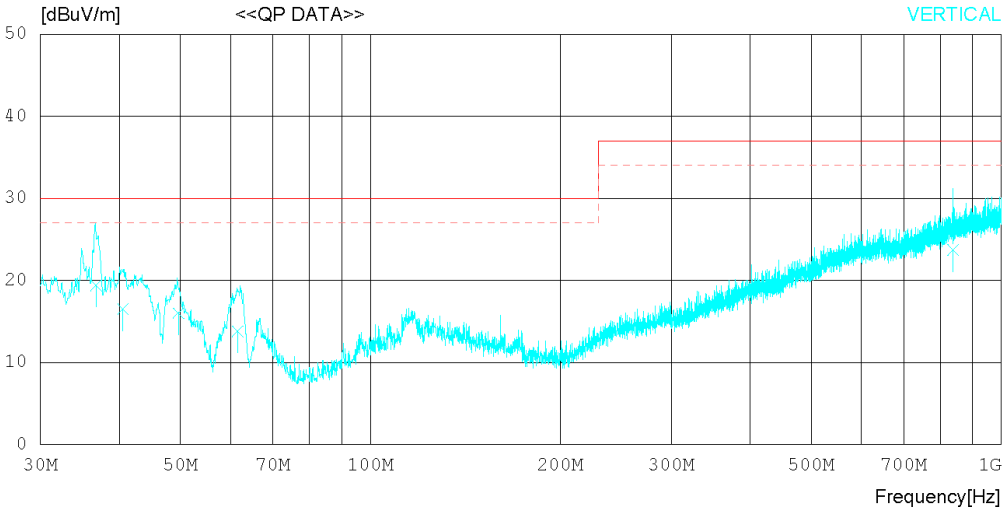
Date : 2016-03-04

Order No.	:		Reference No.	:	
Model No.	:	WS1098	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	17 'C 39 % R.H.
Test Condition	:	1	Operator	:	

Memo :

LIMIT : CISPR Pub.22 Class B (10m)
MARGIN: 3 dB





RADIATED EMISSION

Date : 2016-03-04

Order No.	:		Reference No.	:	
Model No.	:	WS1098	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	17 'C 39 % R.H.
Test Condition	:	1	Operator	:	

Memo :

LIMIT : CISPR Pub.22 Class B (10m)
MARGIN: 3 dB

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	130.636	18.0	11.6	2.7	22.9	9.4	30.0	20.6	400	312
2	830.803	19.3	20.2	7.5	23.1	23.9	37.0	13.1	400	123
----- Vertical ------										
3	36.761	25.2	15.1	1.3	22.2	19.4	30.0	10.6	100	169
4	40.542	23.9	13.2	1.6	22.2	16.5	30.0	13.5	176	66
5	49.594	27.9	8.6	1.7	22.2	16.0	30.0	14.0	100	9
6	61.673	28.0	6.3	1.8	22.3	13.8	30.0	16.2	100	210
7	838.554	19.0	20.2	7.5	23.0	23.7	37.0	13.3	400	27

WS1098 _ < (1 ~ 6) GHz _ Peak _ MODE 1 >

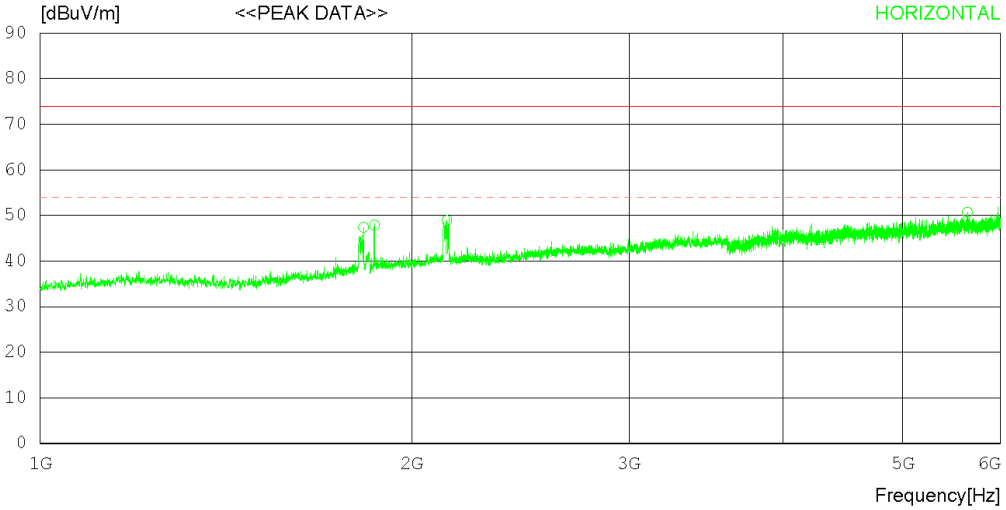
RADIATED EMISSION

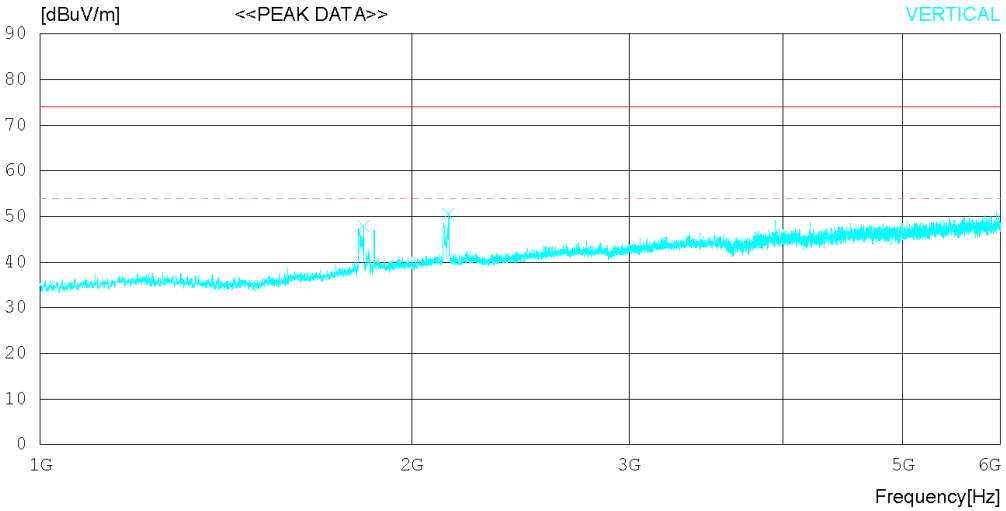
Date : 2016-03-05

Order No.	:		Reference No.	:	
Model No.	:	WS1098	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	19 'C 45 % R.H.
Test Condition	:		Operator	:	

Memo : 1

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)





RADIATED EMISSION

Date : 2016-03-05

Order No.	:		Reference No.	:	
Model No.	:	WS1098	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	19 'C 45 % R.H.
Test Condition	:		Operator	:	

Memo : 1

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	1828.125	60.4	30.5	4.3	47.8	47.4	74.0	26.6	100	358
2	1865.625	60.7	30.8	4.3	47.9	47.9	74.0	26.1	100	358
3	2136.250	60.2	31.7	4.7	47.7	48.9	74.0	25.1	100	358
4	5638.125	54.9	34.5	8.2	46.9	50.7	74.0	23.3	100	358
----- Vertical ------										
5	1828.750	60.9	30.5	4.3	47.8	47.9	74.0	26.1	100	1
6	2141.250	61.9	31.7	4.7	47.7	50.6	74.0	23.4	100	1

WS1098 _ < (1 ~ 6) GHz _ Average _ MODE 1 >

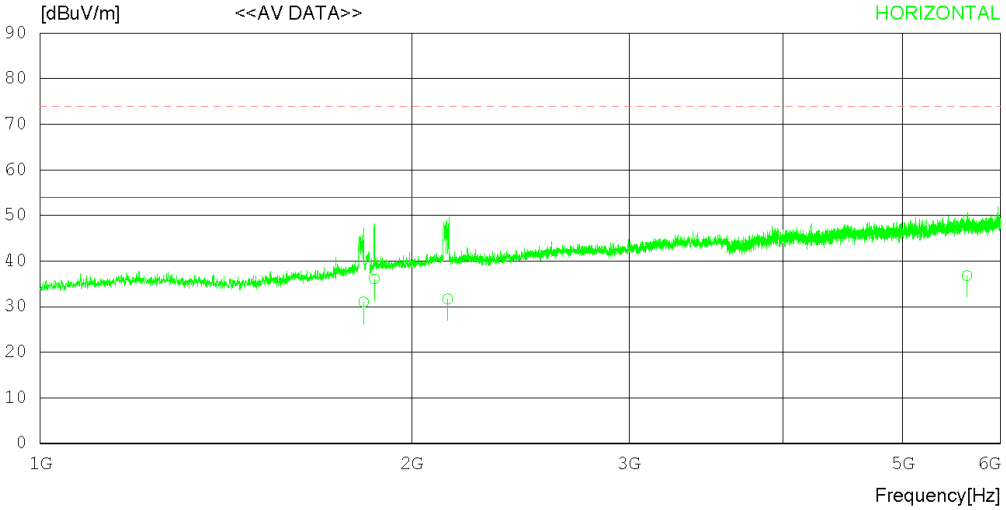
RADIATED EMISSION

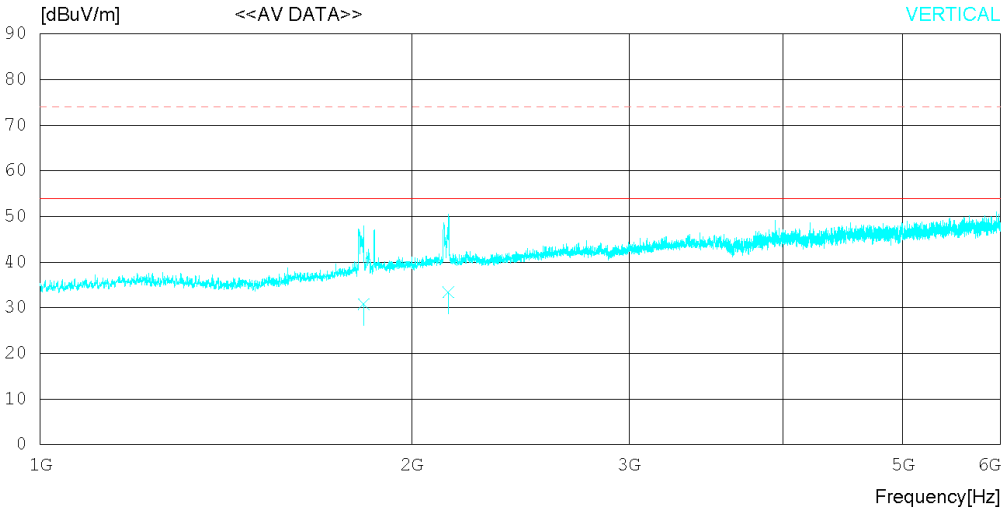
Date : 2016-03-05

Order No.	:		Reference No.	:	
Model No.	:	WS1098	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	19 'C 45 % R.H.
Test Condition	:		Operator	:	

Memo : 1

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Avg)
FCC Part15 Subpart.B Class B (3m) - 18G(Peak)





RADIATED EMISSION

Date : 2016-03-05

Order No.	:		Reference No.	:	
Model No.	:	WS1098	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	19 'C 45 % R.H.
Test Condition	:		Operator	:	

Memo : 1

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Avg)
FCC Part15 Subpart.B Class B (3m) - 18G(Peak)

No.	FREQ [MHz]	READING AV [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	1828.594	44.0	30.5	4.3	47.8	31.0	54.0	23.0	100	247
2	1864.959	48.9	30.8	4.3	47.9	36.1	54.0	17.9	100	256
3	2138.466	43.0	31.7	4.7	47.7	31.7	54.0	22.3	100	243
4	5635.654	41.0	34.5	8.2	46.9	36.8	54.0	17.2	100	110
----- Vertical ------										
5	1828.155	43.8	30.5	4.3	47.8	30.8	54.0	23.2	100	274
6	2141.269	44.7	31.7	4.7	47.7	33.4	54.0	20.6	100	170

WS1098 _ < 30 MHz ~ 1 GHz _ MODE 2 >

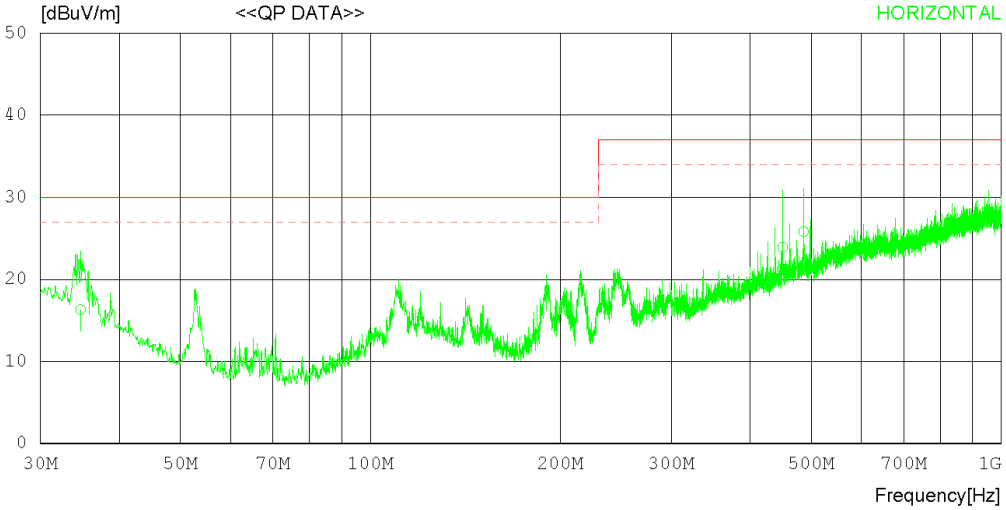
RADIATED EMISSION

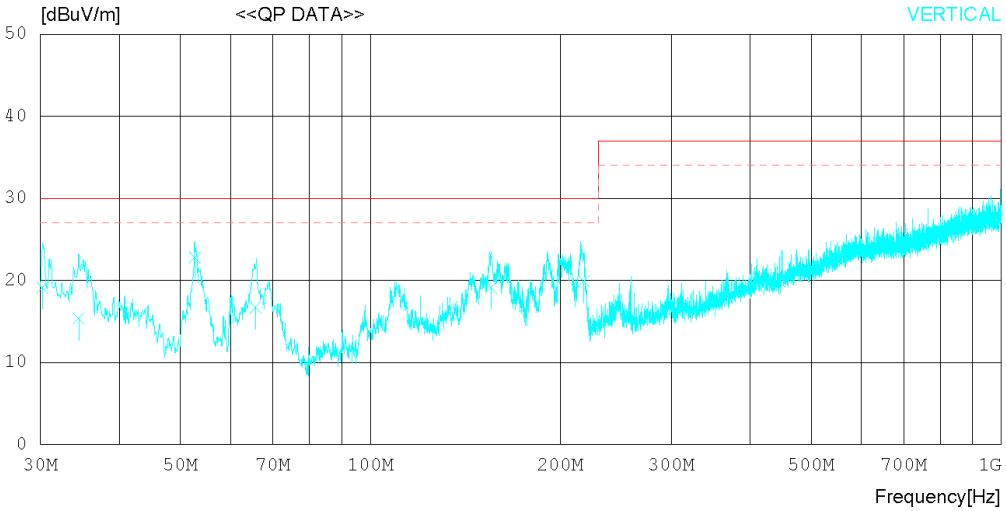
Date : 2016-03-04

Order No.	:		Reference No.	:	
Model No.	:	WS1098	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	17 'C 39 % R.H.
Test Condition	:	2	Operator	:	

Memo :

LIMIT : CISPR Pub.22 Class B (10m)
MARGIN: 3 dB





RADIATED EMISSION

Date : 2016-03-04

Order No.	:		Reference No.	:	
Model No.	:	WS1098	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	17 'C 39 % R.H.
Test Condition	:	2	Operator	:	

Memo :

LIMIT : CISPR Pub.22 Class B (10m)
MARGIN: 3 dB

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	34.729	21.0	16.2	1.3	22.2	16.3	30.0	13.7	100	76
2	450.350	26.5	16.7	5.3	24.6	23.9	37.0	13.1	100	203
3	486.009	27.6	17.3	5.4	24.5	25.8	37.0	11.2	100	182
----- Vertical ------										
4	30.243	21.5	18.5	1.3	22.2	19.1	30.0	10.9	199	204
5	34.486	20.0	16.3	1.3	22.2	15.4	30.0	14.6	400	254
6	52.674	35.6	7.8	1.7	22.3	22.8	30.0	7.2	400	358
7	65.787	30.8	6.4	1.9	22.4	16.7	30.0	13.3	201	358
8	155.249	29.1	10.2	2.9	23.1	19.1	30.0	10.9	100	309
9	217.842	29.7	10.3	3.5	23.6	19.9	30.0	10.1	100	81

WS1098 _ < (1 ~ 6) GHz _ Peak _ MODE 2 >

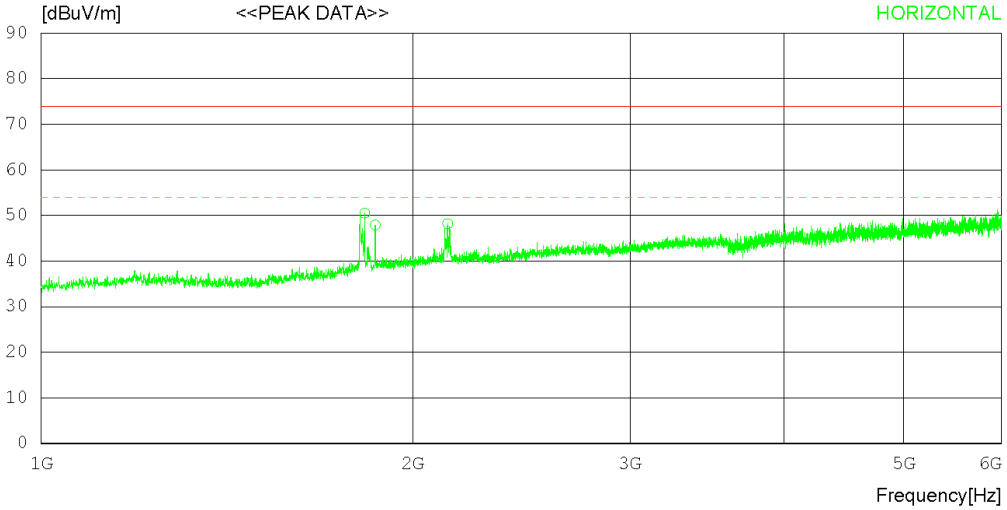
RADIATED EMISSION

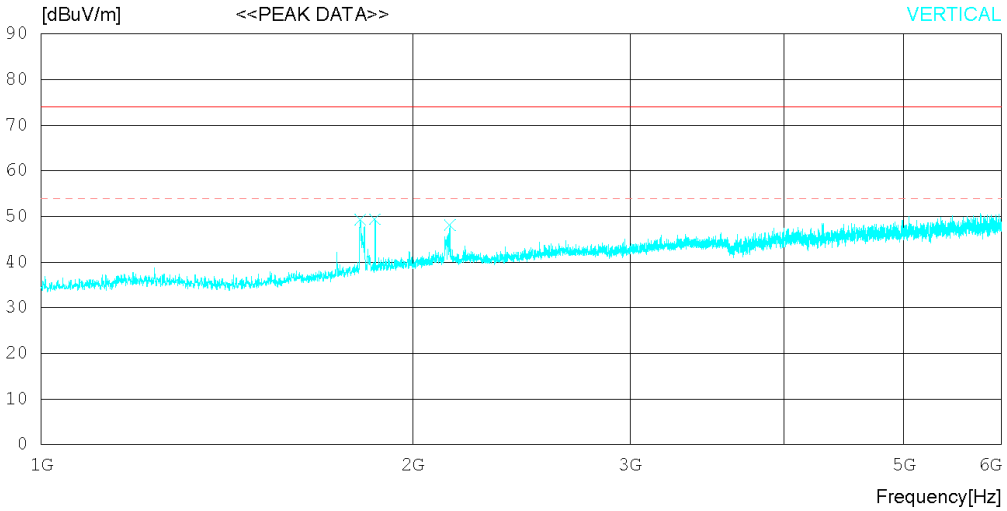
Date : 2016-03-05

Order No.	:		Reference No.	:	
Model No.	:	WS1098	Power Supply	: 120 V	60 Hz
Serial No.	:		Temp/Humi	: 19 'C	45 % R.H.
Test Condition	:		Operator	:	

Memo : 2

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)





RADIATED EMISSION

Date : 2016-03-05

Order No.	:		Reference No.	:	
Model No.	:	WS1098	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	19 'C 45 % R.H.
Test Condition	:		Operator	:	

Memo : 2

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	1828.750	63.5	30.5	4.3	47.8	50.5	74.0	23.5	100	71
2	1865.000	60.7	30.8	4.3	47.9	47.9	74.0	26.1	100	292
3	2134.375	59.5	31.7	4.7	47.7	48.2	74.0	25.8	100	358
----- Vertical ------										
4	1813.750	62.5	30.3	4.3	47.8	49.3	74.0	24.7	100	59
5	1864.375	62.2	30.8	4.3	47.9	49.4	74.0	24.6	100	196
6	2143.750	59.4	31.7	4.7	47.7	48.1	74.0	25.9	100	0

WS1098 _ < (1 ~ 6) GHz _ Average _ MODE 2 >

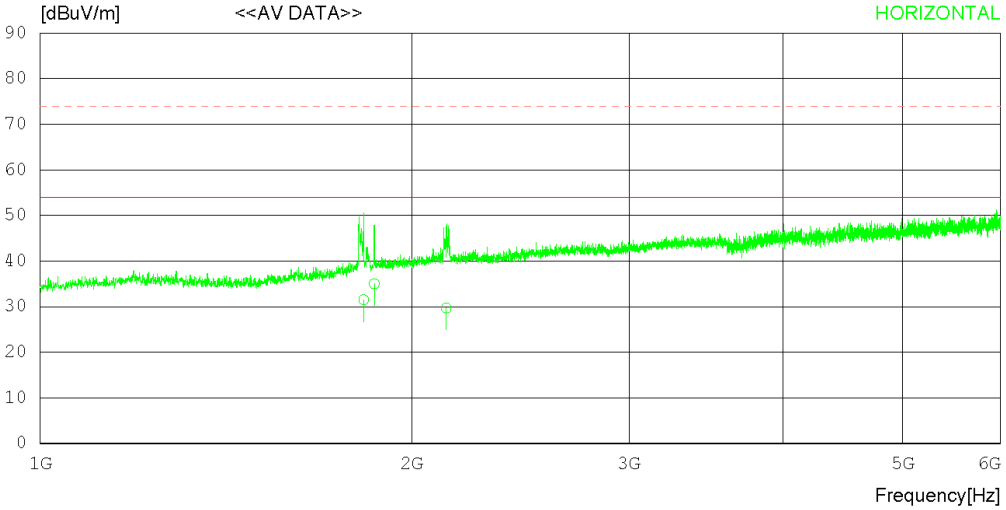
RADIATED EMISSION

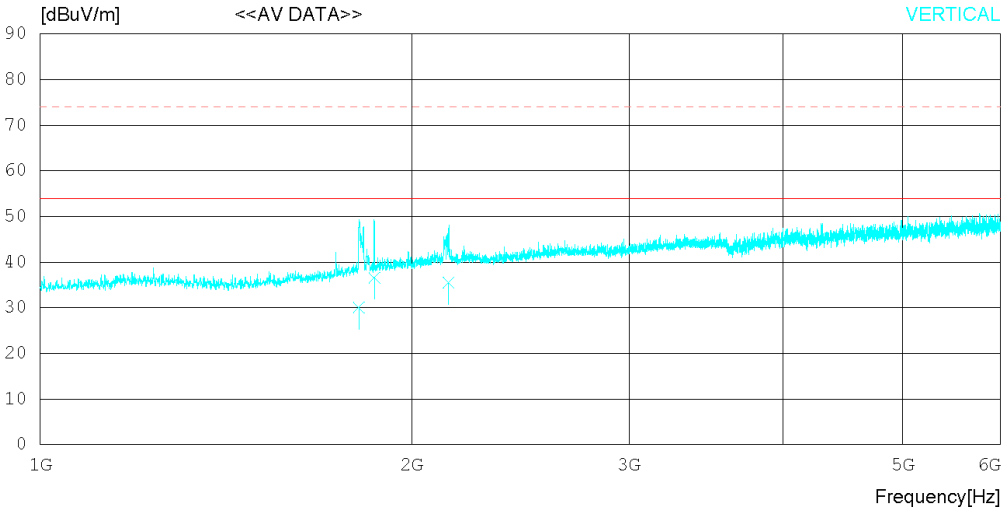
Date : 2016-03-05

Order No.	:		Reference No.	:	
Model No.	:	WS1098	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	19 'C 45 % R.H.
Test Condition	:		Operator	:	

Memo : 2

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Avg)
FCC Part15 Subpart.B Class B (3m) - 18G(Peak)





RADIATED EMISSION

Date : 2016-03-05

Order No.	:		Reference No.	:	
Model No.	:	WS1098	Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	19 'C 45 % R.H.
Test Condition	:		Operator	:	

Memo : 2

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Avg)
FCC Part15 Subpart.B Class B (3m) - 18G(Peak)

No.	FREQ [MHz]	READING AV [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	1828.524	44.5	30.5	4.3	47.8	31.5	54.0	22.5	100	172
2	1865.017	47.8	30.8	4.3	47.9	35.0	54.0	19.0	100	229
3	2132.915	41.0	31.7	4.7	47.7	29.7	54.0	24.3	100	326
----- Vertical ------										
4	1811.900	43.2	30.3	4.3	47.8	30.0	54.0	24.0	100	159
5	1865.265	49.4	30.8	4.3	47.9	36.6	54.0	17.4	100	265
6	2141.915	46.8	31.7	4.7	47.7	35.5	54.0	18.5	100	223

6.3 Antenna Power Conduction

6.3.1 Measurement Procedure

Power on the receive antenna terminals was to be determined by measurement of the voltage present at these terminals.

Antenna conducted power measurements was performed with the EUT antenna terminals connected directly to measuring instrument using a impedance-Matching network to connect the measurement Instrument to the antenna terminals of the EUT.

The losses in decibels in impedance-matching network and cables was added to the measured values in dBμV.

The measurements were repeated with the receiver tuned to a frequency until all of frequencies had been successively measured.

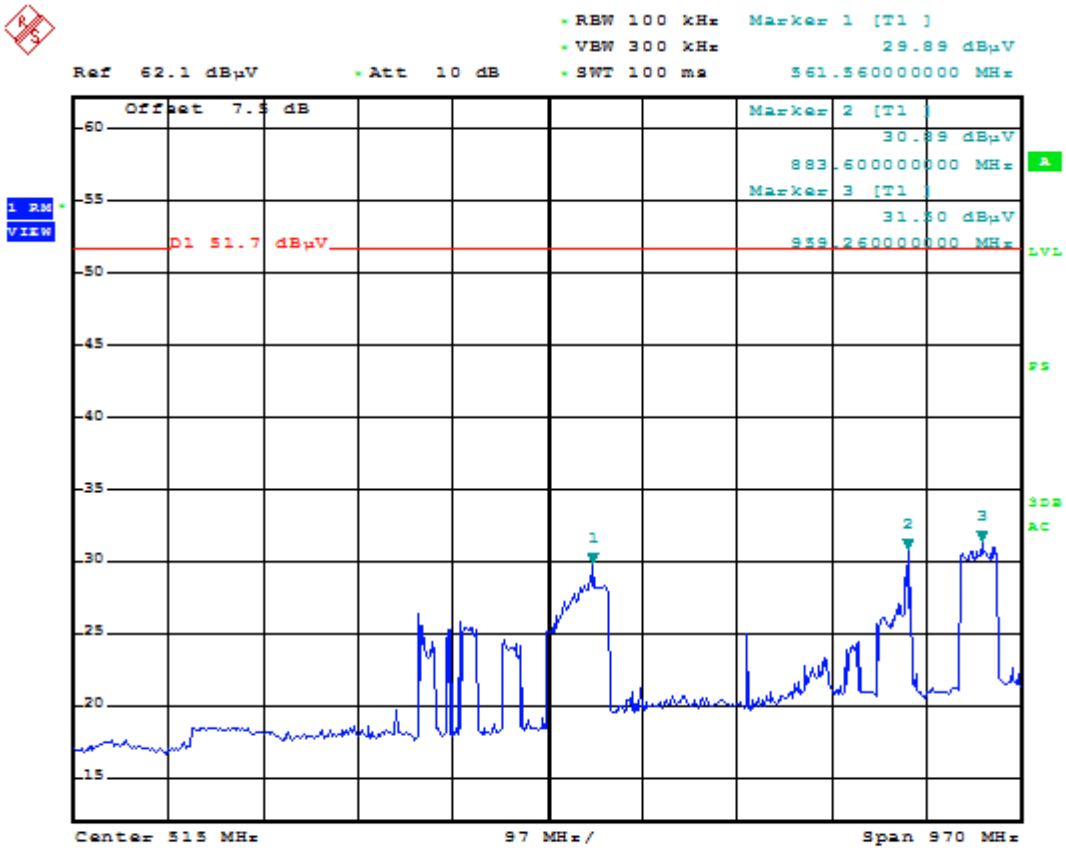
Power in the receive antenna terminals in the ratio of V^2 /R, where V is the loss-corrected voltage measured at the antenna terminals, and R is the impedance of the measuring instrument.

6.3.2 Limit for Antenna Power Conduction

- Limit : **2nW(51.7 dBμV)**

Test Result

< WS1095 >



Appendix 1

List of Test and Measurement Instruments

To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment is identified by the Test Laboratory.

1. Conducted Disturbance

Name of Instrument		Model No.	Manufacturer	Serial No.	Cal. Date	Next Cal. Date
☒	MEASUREMENT SOFTWARE	EMI-C VER. 2.00.0143	TSJ	N/A	N/A	N/A
☐	ARTIFICIAL MAINS NETWORK	PMM L2-16B	NARDA S.T.S. / PMM	000WX20305	2015.06.26	2016.06.26
☒	LISN	KNW-407	KYORITSU	8-317-8	2016.01.05	2017.01.05
☐	50 OHM TERMINATOR	CT-01	TME	N/A	2016.01.05	2017.01.05
☒	EMI TEST RECEIVER	ESCI7	ROHDE & SCHWARZ	100910	2016.02.25	2017.02.25
☒	LISN	ESH2-Z5	ROHDE & SCHWARZ	828739/006	2015.09.10	2016.09.10
☒	PULSE LIMITER	ESH3-Z2	ROHDE & SCHWARZ	101334	2016.01.05	2017.01.05
☒	50 OHM TERMINATOR	CT-01	TME	N/A	2016.01.05	2017.01.05

2. Radiated Disturbance

Name of Instrument		Model No.	Manufacturer	Serial No.	Cal. Date	Next Cal. Date
☒	MEASUREMENT SOFTWARE	EMI-R VER. 2.00.0121	TSJ	N/A	N/A	N/A
☒	EMI TEST RECEIVER	ESU	ROHDE & SCHWARZ	100538	2016.02.05	2017.02.05
☒	TRILOG BROADBAND TEST-ANTENNA	VULB9160	SCHWARZBECK	9160-3362	2014.07.31	2016.07.31
☒	LOW NOISE PRE AMPLIFIER	MLA-100K01-B01-26	TSJ	1252741	2016.02.25	2017.02.25
☒	HORN ANTENNA	3117	ETS-LINDGREN	00152093	2016.02.26	2018.02.26
☒	PREAMPLIFIER	MLA-100M18-B01-42	TSJ	1872271	2015.05.26	2016.05.26
☒	EMI TEST RECEIVER	ESU	ROHDE & SCHWARZ	100014	2016.01.06	2017.01.06
☒	AMPLIFIER	8447E	H/P	2945A02865	2016.01.06	2017.01.06
☒	BILOG ANTENNA	CBL6112B	SCHAFFNER	2737	2014.12.10	2016.12.10

3. Antenna Power Conduction

Name of Instrument		Model No.	Manufacturer	Serial No.	Cal. Date	Next Cal. Date
☒	EMI TEST RECEIVER	ESCI	ROHDE & SCHWARZ	100364	2016.02.25	2017.02.25
☐	SPLITTER	ZFRSC-42	MINI CIRCUITS	SF624000603	2015.06.26	2016.06.26

Appendix 2

Report Revision History

Revision Date	Description	Revised By	Revision Reviewed By
None	Original	N/A	N/A

Appendix 3

Changed item

The circuital of Remote PCB Ass'y changed but it will be selling with same FCC ID of WS1095.

Description	Ref. no	WS1095	WS1098	Remark
REMOTE MAIN TOP ASS'Y	C649, C650, C651, C652	Not Imbedded	(0402) 47pF 50V +/-5%	capacitor was added because it was increased buttons.
	R637, R638, R646, R647	Not Imbedded	(0402) 1K ohm 1/16W +/-5% (Sn)	resistance was added because it was increased buttons.
	R668	Not Imbedded	(0603) 680 ohm 1/10W +/-5%	series resistance was added because it was increased LED.
REMOTE MAIN BOTTOM ASS'Y	LED611	Not Imbedded	CHIP LED (RANK GB3-HB4)	LED was added owing to button rearrangement.
	SW601, SW602, SW603, SW604, SW605, SW606, SW607, SW608, SW609, SW610	CHIP TACT SWITCH	Delete	CHIP TACT SWITCH was deleted Because button type was changed into PCB pattern.

Addition of the adapter as requested by the buyer.

Linear Adapter (Basic type)	SMPS Adapter (Additional type)
Manufacturer : Song Lian Model name : GA-04D-1100E Input : 120V AC 60Hz 250mA Output : 13.8V DC 600mA 8.28W	Manufacturer : 3YE Model name : GQ15-138060-AU Input : 100-240V ~ 50/60Hz 0.5A Max Output : 13.8V 600mA