Electromagnetic Emission

FCC MEASUREMENT REPORT

CERTIFICATION OF COMPLIANCE

FCC Part 15 Certification Measurement

PRODUCT	:	Set-top Box
MODEL/TYPE NO	:	DMS2444UHDW / EVY521W00217
FCC ID	:	PFNDMS2444UHDW
MULTIPLE MODEL	:	-
BRAND NAME	:	-
APPLICANT	:	Digital Multimedia Technology Co., Ltd. 2nd Fl., 926 Gwanyang-Dong, Dongan-Gu, Anyang-Si, Gyeonggi-Do, 431-060 Korea Attn.: Kee-Chul Lee / General Manager
MANUFACTURER	:	Hengdi Digital Technology (Shen Zhen) Co.,Ltd A.B Building, Xin Shi Qiao Guanjie Industrial Park, Guihua Community, Guanlan Street, Bao'an District, Shenzhen City, Guangdong Province, China, 518-110
FCC CLASSIFICATION	:	HID - Part 15 TV Interface Device
RULE PART(S)	:	FCC Part 15 Subpart B
TEST PROCEDURE	:	ANSI C63.4-2009
TEST REPORT No.	:	ETLE150513.0614
DATES OF TEST	:	June 28, 2015 to July 01, 2015
REPORT ISSUE DATE	:	July 07, 2015
TEST LABORATORY	:	ETL Inc. (FCC Designation Number: KR0022)

This Set-top Box, Model DMS2444UHDW has been tested in accordance with the measurement procedures specified in ANSI C63.4-2009 at the ETL/EMC Test Laboratory and has been shown to be complied with the electromagnetic radiated emission limits specified in FCC Rule Part15 Subpart B:
I attest to the accuracy of data. All measurement herein was performed by me or was made under my supervision and is correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.
The results of testing in this report apply to the product/system which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Prepared by:
Chul Min, Ji (Test Engineer)
July 07, 2015

Reviewed by:
Hyung Min, Choi (Chief Engineer)
July 07, 2015

ETL Inc.
Head office: #371-51, Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea
Open site: #499-1, Sagot-ri, Seosin-myeon, Hwaseong-si, Gyeonggi-do, 445-882, Korea
Tel: 82-2-858-0786 Fax: 82-2-858-0788

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FCC MEASUREMENT REPORT

Scope – *Measurement and determination of electromagnetic emission(EME) of radio frequency devices including intentional radiators and/or unintentional radiators for compliance with the technical rules and regulations of the U.S Federal Communications Commission(FCC)*

General Information

Applicant Name : Digital Multimedia Technology Co., Ltd.

Address : 2nd Fl., 926 Gwanyang-Dong, Dongan-Gu, Anyang-Si, Gyeonggi-Do, 431-060 Korea

Attention : Kee-Chul Lee / General Manager

- **EUT Type :** Set-top Box
- **Model Number :** DMS2444UHDW
- **S/N :** EVY521W00217
- **Rule Part(s) :** FCC Part 15 Subpart B
- **Test Procedure :** ANSI C63.4-2009
- **FCC Classification :** HID - Part 15 TV Interface Device
- **Dates of Tests :** June 28, 2015 to July 01, 2015
- **Environmental of Tests:** Temperature: (27.0 ± 7.7) °C
  Humidity: (50 ± 12) % R.H.
  Atmospheric Pressure: (100.4 ± 0.1) kPa
- **Place of Tests :** ETL Inc. Testing Lab. (FCC Designation Number : KR0022)
  Radiated Emission test 1;
  #499-1, Sagot-ri, Seosin-myeon, Hwaseong-si,
  Gyeonggi-do, 445-882, Korea
  Radiated Emission test 2 and Conducted Emission test;
  #371-51, Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea
- **Test Report No. :** ETLE150513.0614

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1. INTRODUCTION

The measurement tests for radiated and conducted emission test were conducted at the ETL Inc. The site is constructed in conformance with the requirements of the ANSI C63.4-2009 and CISPR Publication 16. The ETL has site descriptions on file with the FCC for 3 m and 10 m site configurations. Detailed description of test facility was found to be in compliance with the requirements of Section 2.948 FCC Rules according to the ANSI C63.4-2009 and registered to the Federal Communications Commission (FCC Designation Number : KR0022).

The measurement procedure described in American National Standard for Method of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (ANSI C63.4-2009) was used in determining radiated and conducted emissions from the Digital Multimedia Technology Co., Ltd., Model: DMS2444UHDW.

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2. PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the Set-top Box (model: DMS2444UHDW).

The model DMS2444UHDW is basic model that was tested.

The EUT has four types of AC/DC Adapter. And each has been tested.

(Model name of Type 1: EDF0500150A1BA, Model name of Type 2: EDF0500150A1BB,
Model name of Type 3: EDF0500150A1BA-3, Model name of Type 4: EDF0500150A1BB-3)

AC/DC Adapter types may be used the one of two type selected by manufacturer.

Type of AC/DC Adapter	Adapter View
Adapter type #1	
Adapter type #2	
Adapter type #3	
Adapter type #4	

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2.2 General Specification

Favorite channel, Parental Lock
Automatic search for newly added transponder (Network Auto Search)
Stores up to 5 000 channels
Plug-and-play data transfer system (DSR to DSR)
Timer function, automatically turns On/Off by setting function (daily, weekly, monthly and one time)
Automatic reserved channel moving system
Provide Electronic program Guide (EPG)
PAL/NTSC automatically conversion
Last channel automatically saving
Support RF4CE application
RF4CE Frequency range: 2 425 MHz ~ 2 475 MHz
Support for various video output: HDMI, RF 3/4 Mod.
HDMI 1.3a with HDCP 1.1
US3/4 Channel
MPEG-2 / MPEG-4 Part 10 / H.264
Video Display format with NTSC/480p/576p/720p/1 080i
Dolby Digital AC3
RF input frequency range: 105 MHz to 1 002 MHz
High Internal Frequency: X-tal → 54 MHz

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3. DESCRIPTION OF TESTS

3.1 AC Power line Conducted Emission Measurement

AC Power line Conducted emissions measurements were made in accordance with section 12, "Measurement of unintentional radiators other than ITE" of ANSI C63.4-2009. The measurements were performed over the frequency range of 0.15 MHz to 30 MHz using a 50 Ω/50 μH LISN as the input transducer to a Spectrum Analyzer or a Test Receiver. The measurements were made with the detector set for "Peak" amplitude within a bandwidth of 9 kHz or for "quasi-peak" within a bandwidth of 9 kHz.

The line-conducted emission test is conducted inside a shielded anechoic chamber room with 1 m x 1.5 m x 0.8 m wooden table which is placed 40 cm away from the vertical wall and 1.5 m away from the side wall of the chamber room. Two LISN are bonded to the shielded room. The EUT is powered from the LISN and the support equipment is powered from the other LISN. Powers to the LISNs are filtered by a noise cut power line filters. If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and these supply lines will be connected to the LISN.

Non-inductive bundling to a 1 m length shortened all interconnecting cables more than 1 m. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the EMI Test Receiver to determine the frequency producing the maximum emission from the EUT. The frequency producing the maximum level was reexamined using to set Quasi-Peak mode by manual, after scanned by automatic Peak mode from 0.15 MHz to 30 MHz. The bandwidth of the spectrum analyzer was set to 9 kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission.

Photographs of the worst-case emission can be seen in photographs of conducted emission test setup in Appendix B.

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3.2 Radiated Emission Measurement

Radiated emission measurements were made in accordance with section 12, "Measurement of unintentional radiators other than ITE" of ANSI C63.4-2009.The measurements were performed over the frequency range of 30 MHz to 40 GHz (or 5th harmonic of the highest frequency) in using antenna as the input transducer to a spectrum analyzer or a field intensity meter. The measurements below 1 GHz were made with the detector set for "Quasi-peak" within a bandwidth of 120 kHz. The measurements above 1 GHz were made with the detector set for "Peak and Average" within a bandwidth of 1 MHz.

Preliminary measurements were made at 3 m using broadband antennas, and spectrum analyzer to determined the frequency producing the maximum emission in shielded room. Appropriate precaution was taken to ensure that all emission from the EUT were maximized and investigated. The system configuration, mode of operation, turntable azimuth and height with respect to the antenna were noted for each frequency found. The spectrum was scanned from 30 MHz to 1 000 MHz using Log-Bicon antenna. Above 1 GHz, linearly polarized double ridge horn antennas were used. Final measurements were made open site or SVSWR chamber at 3 m. The test equipment was placed on a styrofoam table. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. Each frequency found during pre-scan measurements was re-examined by manual. The EUT, support equipment and interconnecting cables were re-configured to the set-up producing the maximum emission for the frequency and were placed on top of a 0.8 m high nonmetallic 1 m x 1.5 m table. The EUT, support equipment, and interconnecting cables were re-arranged and manipulated to maximize each emission. The turntable containing the system was rotated; the antenna height was varied 1 m to 4 m and stopped at the azimuth or height producing the maximum emission. Each emission was maximized by: varying the mode of operation to the EUT and/or support equipment and changing the polarity of the antenna, whichever determined the worst-case emission.

Photographs of the worst-case emission can be seen in Photographs of the worst-case emission test setup can be seen in Appendix B.

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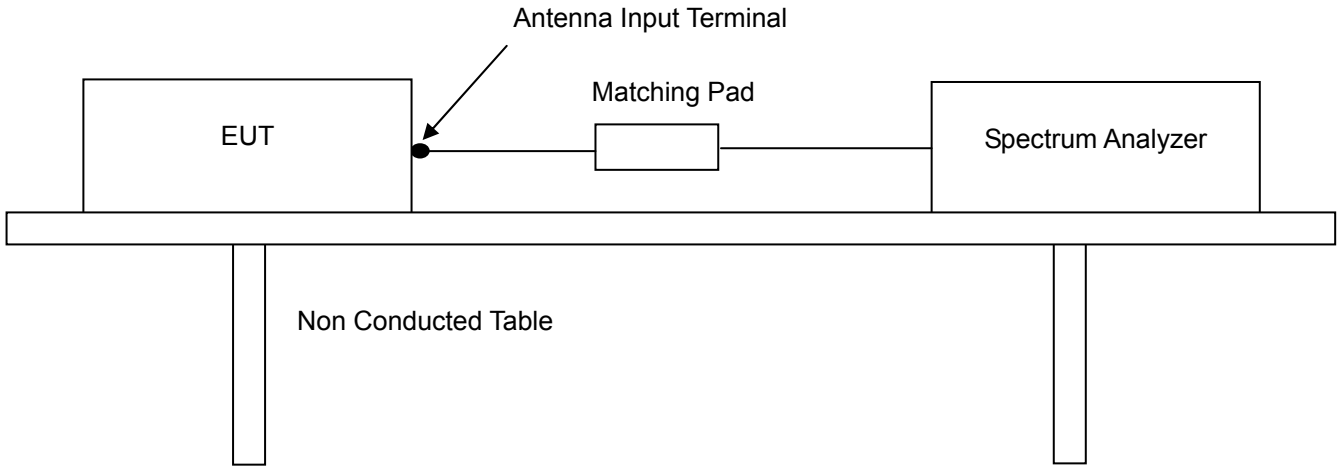
3.3 Antenna Power Conducted Measurements

Power on the receive antenna terminals was to be determined by measurement of the voltage present at these terminals. An antenna-conducted power measurement is performed with the EUT antenna terminals connected directly to a spectrum analyzer, if the antenna impedance matches the impedance of the measuring instrument. Otherwise, use an impedance-matching network to connect the measuring instrument to the antenna terminals of the EUT. Losses in decibels in any impedance-matching network used are added to the measured value in dBμV.

With the EUT tuned to one of the frequency over which device operates, measure both the frequency and voltage present at the antenna input terminals over the frequency range specified in the individual equipment requirements. Repeat this measurement with the receiver tuned to another frequency until the numbers of frequencies specified have been successively measured. Power on the receive antenna terminals is the ratio of V2/R, where V is the loss-corrected voltage measured at the antenna terminals, and R is the impedance of the measuring instrument.



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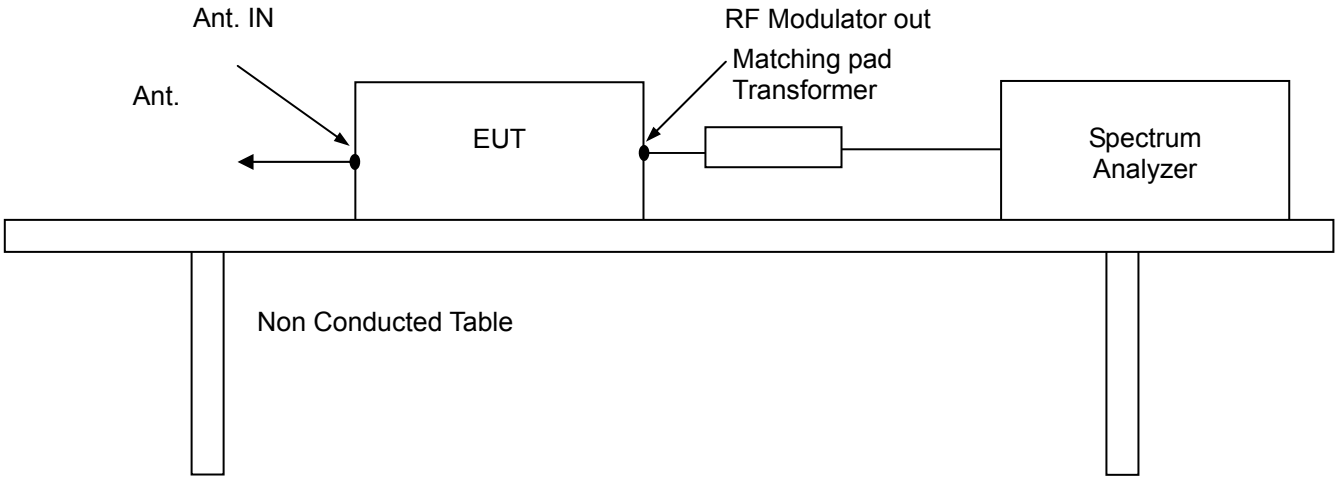
3.4 Output Signal Conducted Level Measurement

The output signal level is the maximum voltage level present at the output terminals of the EUT on a particular frequency during normal use of the device.

The signal level was measured by direct connection to the spectrum analyzer with 50 ohm/75 ohm matching transformer between the spectrum analyzer and the TV interface device. The RF output signal level measured was the highest RF level present at the output terminals during normal use of the device. Measurements were made of the levels of both the visual and audio carrier for each TV channel (3 and 4) on which the device operates. The Satellite Receiver was supported between the EUT and the measuring instrument in a straight horizontal line so it had at least 75 cm clearance from any conducting surface.

The EUT is provided with a typical signal consistent with normal operation. For each channel on which the EUT operates and in each mode in which the device operates, the video and audio carrier level is measured and recorded.

The voltage corresponding to the peak envelope power of the video modulated signal during maximum amplitude peaks across a resistance (R ohms) matching the rated output impedance of the device, must not exceed 692.8 $R^{1/2}$ μV for all other TV interface device. The voltage corresponding to peak envelope power of the audio modulated signal, if provided by the TV interface device, must not exceed 155 $R^{1/2}$ μV for Cable Receiver system terminal device of TV interface device used with a master antenna, and 77.5 $R^{1/2}$ μV for all other TV interface device. Losses in decibels in any impedance-matching network used were added to the measured value in dBμV. The EUT was configured in accordance with ANSI C63.4-2009 Section 12.2 as below configuration block diagram.



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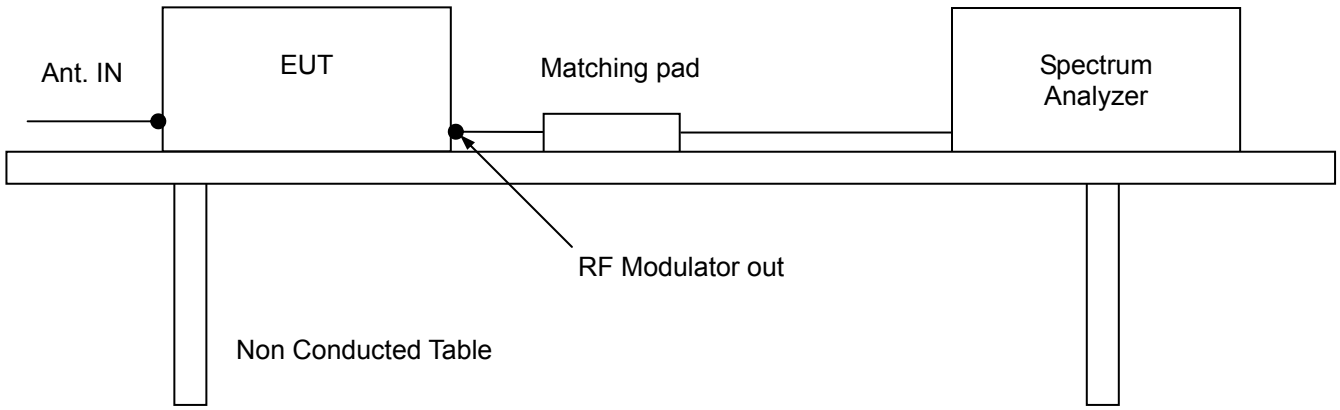
3.5 Output Terminal Conducted Spurious Emission Measurement

The RF output signal was fed to the TV receiver via coaxial Satellite Receiver. Measurements were made by direct connection to the spectrum analyzer and TV interface device with 50 ohm/75 ohm matching transformer. The frequency range 30 MHz to 1 000 MHz was investigated for significant emission.

The maximum RMS voltage of any emission appearing on frequencies removed by more than 4.6 MHz below and 7.4 MHz above the video carrier frequency on which the TV interface device is operated must not exceed 692.8 $R^{1/2}$ μV for Cable Receiver system terminal device or TV interface device used with a master antenna and 10.95 $R^{1/2}$ μV for all other TV interface device when terminated with a resistance (R ohms) matching the rated output impedance of the TV interface device. The EUT was configured in accordance with ANSI C63.4-2009 Section 12.2 as below configuration block diagram.



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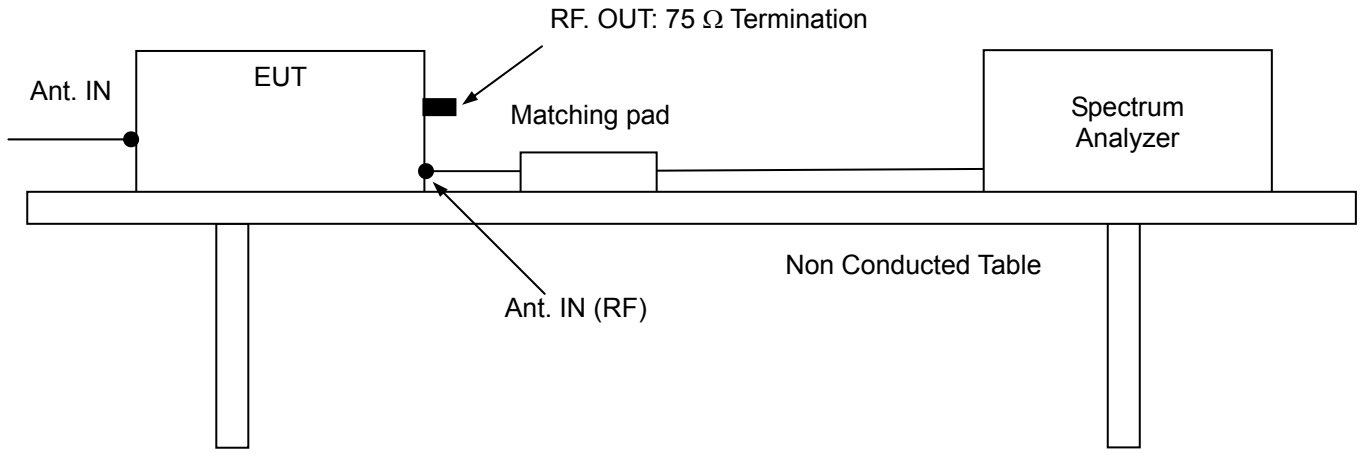
3.6 Antenna Transfer Switch Measurement

Isolation was measured for all positions of an antenna transfer switch on all output channels of the EUT. TV interface device transfer switch isolation is the difference the levels of a signal going into one antenna input port of the switch and that of the same signal coming out of another antenna terminal of transfer switch. The isolation of an antenna transfer switch equipped with coaxial connector performed by measuring the maximum voltage of the visual carrier. Measurements were made of the maximum RMS voltage at the antenna input terminals of the switch for all positions of the transfer switch. The maximum voltage corresponds to the peak envelope power of the video signal during maximum amplitude peaks. In either position of the receiver transfer switch, the maximum voltage at the receiving antenna input terminals of the switch when terminated with a resistance (R ohms) matching the rated impedance of the antenna input of the switch, must not exceed 0.346 $R^{1/2}$ μV.
The maximum voltage corresponds to the peak envelope power of the video modulated signal during maximum amplitude.

The EUT was configured in accordance with ANSI C63.4-2009 Section 12.2 as below configuration block diagram. And the EUT configuration can also be seen in Appendix B. Photographs of the test setup.

The unused RF input/output terminals are terminated in proper impedance. The antenna input terminal is connected to the input of preamplifier through the matching transformer coaxial Satellite Receiver. And the output of preamplifier is connected to the spectrum analyzer. Then, the signal level on the antenna input terminal is measured under the EUT condition produced the maximum signal level.



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4. TEST CONDITION

4.1 Test Configuration

The device was configured for testing in a typical fashion (as a customer would normally use it). During the tests, the EUT and the supported equipments were installed to meet FCC requirement and operated in a manner which tends to maximize its emission level in a typical application.

4.2 EUT operation

The EUT was set to the normal receiving mode in a TV mode during all the testing in a manner similar to a typical use. For the EUT operation, the satellite live signal was fed to the EUT through the LNB input. During the preliminary testing, the worst case condition of the operating mode was ch.3

4.3 Support Equipment Used

Description	Model Name	Serial No.	Manufacturer	FCC
Adapter (for EUT, Type #1)	EDF0500150A1BA	NONE	ChungKwang Tech Inc.	-
Adapter (for EUT, Type #2)	EDF0500150A1BB	NONE	ChungKwang Tech Inc.	-
Adapter (for EUT, Type #3)	EDF0500150A1BA-3	NONE	ChungKwang Tech Inc.	
Adapter (for EUT, Type #4)	EDF0500150A1BB-3	NONE	ChungKwang Tech Inc.	
Remote Control Unit (for EUT)	NONE	NONE	NONE	-
LCD TV	M235IPSM	203KCHE3X649	LG Electronics	-
Adapter (for LCD TV)	PA-1650-68	OC28N6123140 31239	Lite-On Technology Corporation	-

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4.4 Type of Cables Used

- Adapter type #1, #3

Device from	Device to	Type of I/O port	Length[m]	Type of shield	Used ferrite core
EUT	LCD TV	HDMI	1.5	Shielded	X
EUT	LCD TV	TV OUT	> 3.0	Shielded	X
EUT	Cable ANT.	Cable Tuner	> 3.0	Shielded	X
EUT	HUB	To Video Device or Cable Modem	> 3.0	Shielded	X
EUT	Adapter #1 or #3	DC Input	1.2	Shielded	X
LCD TV	Adapter	DC Input	1.2	Shielded	O

- Adapter type #2, #4

Device from	Device to	Type of I/O port	Length[m]	Type of shield	Used ferrite core
EUT	LCD TV	HDMI	1.5	Shielded	X
EUT	LCD TV	TV OUT	> 3.0	Shielded	X
EUT	Cable ANT.	Cable Tuner	> 3.0	Shielded	X
EUT	HUB	To Video Device or Cable Modem	> 3.0	Shielded	X
EUT	Adapter #2 or #4	DC Input	2.0	Shielded	X
LCD TV	Adapter	DC Input	1.2	Shielded	O

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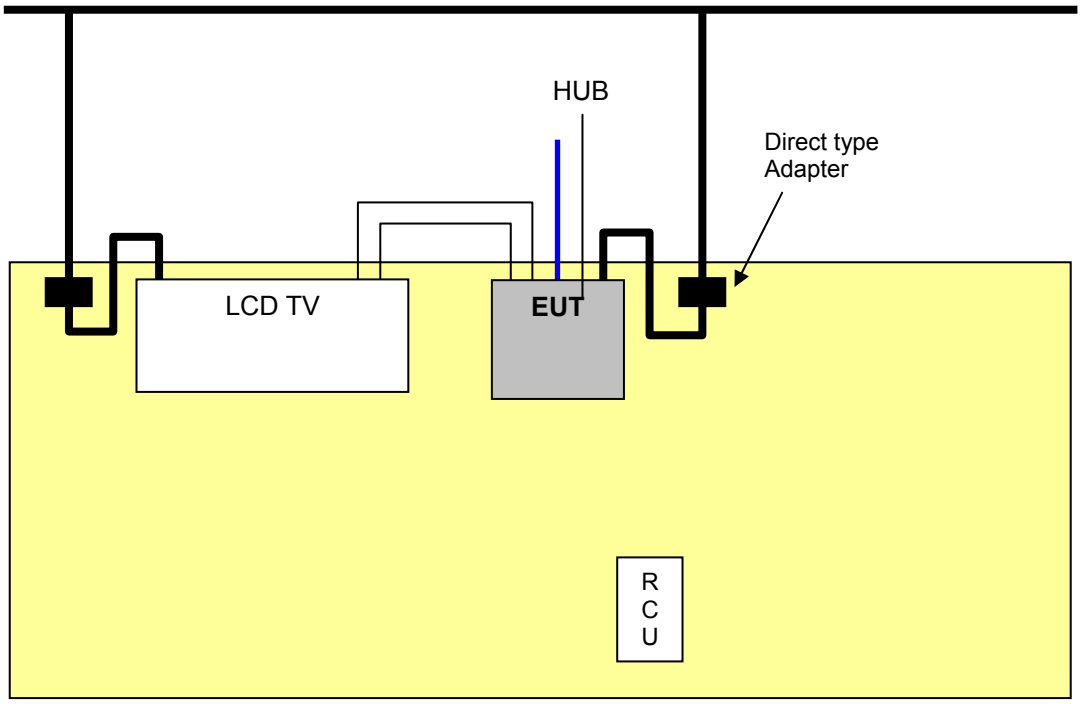
4.5 The setup drawing(s)



: Data Line

: Cable Ant.

: Power Line

: Adapter

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5. TEST RESULTS

5.1 Summary of Test Results

The measurement results were obtained with the EUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum emission of the EUT are reported.

FCC Rule	Measurement Required	Result
15.107(a)	AC Power line Conducted Emission Measurement	Passed by 5.70 dB
15.109(a)	Radiated Emission Measurement (Below 1 GHz)	Passed by 7.20 dB
15.109(a)	Radiated Emission Measurement (Above 1 GHz)	Passed by 19.00 dB
15.111(a)	Antenna Power Conduction Measurement	Passed by 10.80 dB
15.115(b)(1)(i)	Output Signal Level Measurement	Passed by 2.19 dB
15.115(b)(2)(ii)	Output Terminal Conducted Spurious Emission Measurement	Passed by 2.20 dB
15.115(c)(1)(ii)	Antenna Transfer Switch Measurement	Passed *

* During this test, no signal detected.

The data collected shows that the **Digital Multimedia Technology Co., Ltd. / Set-top Box / DMS2444UHDW** complied with technical requirements of above rules part 15.107(a) and 15.109(a), 15.111 and 15.115(b),(c) Limits.

The equipment is not modified anything, mechanical or circuits to improve EMI status during a measurement. No EMI suppression device(s) was added and/or modified during testing.

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5.2 AC Power line Conducted Emissions Measurement

5.2.1 AC Power line Conducted Emissions Data

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.107(a) Class B
Test Date	June 28, 2015
Environmental of Test	(21.4 ± 0.0) °C, (43 ± 0) % R.H., (101.1 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3)
Adapter type	Adapter #1
Result	Passed by 10.90 dB

Conducted Emission Test Data

The following data and graph shows the highest levels of conducted emissions on both polarizations of hot and neutral line.
Detector mode: CISPR Quasi-Peak mode (6 dB Bandwidth: 9 kHz)

NOTES:

1. **Please see the measured data and graph in next page.**
2. **The c.f value was included the LISN factor and cable loss.**
3. **Result value = Reading + c.f**
4. **Margin value = Limit - Result**
5. **Measurement were performed at the AC Power Inlet in the frequency band of 150 kHz ~ 30 MHz according to the FCC Part 15.107(a) Class B.**
6. **If the average limit is met when using a Quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.**
7. **Channel 3 was the worst case operation mode.**

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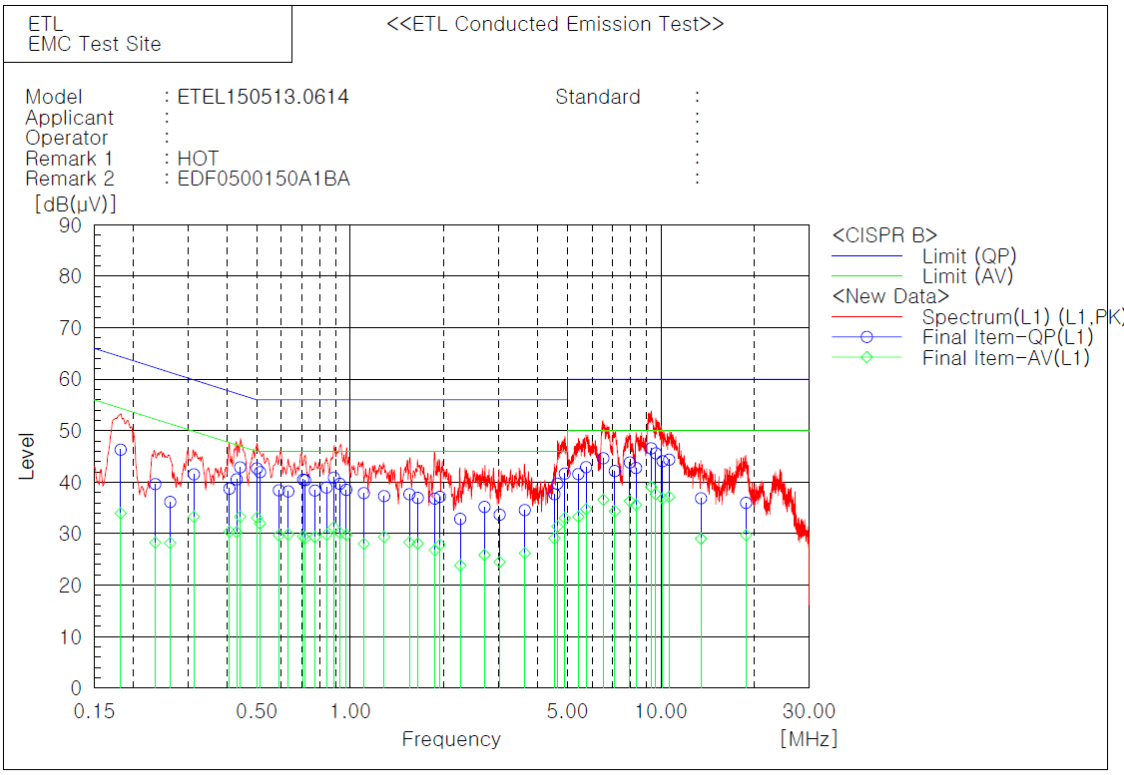
Line: HOT



Final Result

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.18238	35.6	23.3	10.7	46.3	34.0	64.4	54.4	18.1	20.4
2	0.23576	29.1	17.8	10.5	39.6	28.3	62.2	52.2	22.6	23.9
3	0.26342	25.8	17.8	10.4	36.2	28.2	61.3	51.3	25.1	23.1
4	0.314	31.1	22.9	10.4	41.5	33.3	59.9	49.9	18.4	16.6
5	0.40834	28.5	20.1	10.3	38.8	30.4	57.7	47.7	18.9	17.3
6	0.43088	30.3	20.0	10.3	40.6	30.3	57.2	47.2	16.6	16.9
7	0.44236	32.6	23.0	10.3	42.9	33.3	57.0	47.0	14.1	13.7
8	0.50078	32.4	22.8	10.3	42.7	33.1	56.0	46.0	13.3	12.9
9	0.51275	31.7	21.7	10.3	42.0	32.0	56.0	46.0	14.0	14.0
10	0.5895	28.1	19.4	10.3	38.4	29.7	56.0	46.0	17.6	16.3
11	0.63175	27.9	19.5	10.3	38.2	29.8	56.0	46.0	17.8	16.2
12	0.7056	30.2	19.2	10.3	40.5	29.5	56.0	46.0	15.5	16.5
13	0.7158	30.1	18.7	10.3	40.4	29.0	56.0	46.0	15.6	17.0
14	0.76985	28.1	19.0	10.3	38.4	29.3	56.0	46.0	17.6	16.7
15	0.8383	28.7	19.5	10.3	39.0	29.8	56.0	46.0	17.0	16.2
16	0.88625	30.7	21.0	10.2	40.9	31.2	56.0	46.0	15.1	14.8
17	0.92575	29.5	20.0	10.2	39.7	30.2	56.0	46.0	16.3	15.8
18	0.97115	28.3	19.6	10.2	38.5	29.8	56.0	46.0	17.5	16.2
19	1.10635	27.7	17.8	10.2	37.9	28.0	56.0	46.0	18.1	18.0
20	1.2853	27.1	19.2	10.2	37.3	29.4	56.0	46.0	18.7	16.6
21	1.5501	27.5	18.1	10.2	37.7	28.3	56.0	46.0	18.3	17.7
22	1.6509	26.8	17.9	10.2	37.0	28.1	56.0	46.0	19.0	17.9
23	1.8706	26.6	16.6	10.2	36.8	26.8	56.0	46.0	19.2	19.2
24	1.9435	27.0	17.7	10.2	37.2	27.9	56.0	46.0	18.8	18.1
25	2.25815	22.7	13.6	10.2	32.9	23.8	56.0	46.0	23.1	22.2
26	2.70375	25.0	15.6	10.2	35.2	25.8	56.0	46.0	20.8	20.2
27	3.02496	23.6	14.4	10.1	33.7	24.5	56.0	46.0	22.3	21.5
28	3.64638	24.5	16.1	10.1	34.6	26.2	56.0	46.0	21.4	19.8
29	4.54314	27.6	19.0	10.1	37.7	29.1	56.0	46.0	18.3	16.9
30	4.63842	29.6	21.3	10.1	39.7	31.4	56.0	46.0	16.3	14.6
31	4.90338	31.6	22.9	10.1	41.7	33.0	56.0	46.0	14.3	13.0
32	5.41926	31.5	23.2	10.1	41.6	33.3	60.0	50.0	18.4	16.7

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Final Result

--- L1 Phase ---

No.	Frequency	Reading QP	Reading AV	c.f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
33	5.74212	32.8	24.7	10.1	42.9	34.8	60.0	50.0	17.1	15.2
34	6.52416	34.6	26.5	10.1	44.7	36.6	60.0	50.0	15.3	13.4
35	7.10472	32.1	24.2	10.1	42.2	34.3	60.0	50.0	17.8	15.7
36	7.93872	33.7	26.2	10.1	43.8	36.3	60.0	50.0	16.2	13.7
37	8.3164	32.7	25.5	10.1	42.8	35.6	60.0	50.0	17.2	14.4
38	9.30456	36.4	28.9	10.2	46.6	39.1	60.0	50.0	13.4	10.9
39	9.6296	35.4	27.5	10.2	45.6	37.7	60.0	50.0	14.4	12.3
40	10.1162	33.9	26.7	10.2	44.1	36.9	60.0	50.0	15.9	13.1
41	10.628	34.2	26.9	10.2	44.4	37.1	60.0	50.0	15.6	12.9
42	13.4558	26.6	18.7	10.3	36.9	29.0	60.0	50.0	23.1	21.0
43	18.798	25.8	19.5	10.2	36.0	29.7	60.0	50.0	24.0	20.3

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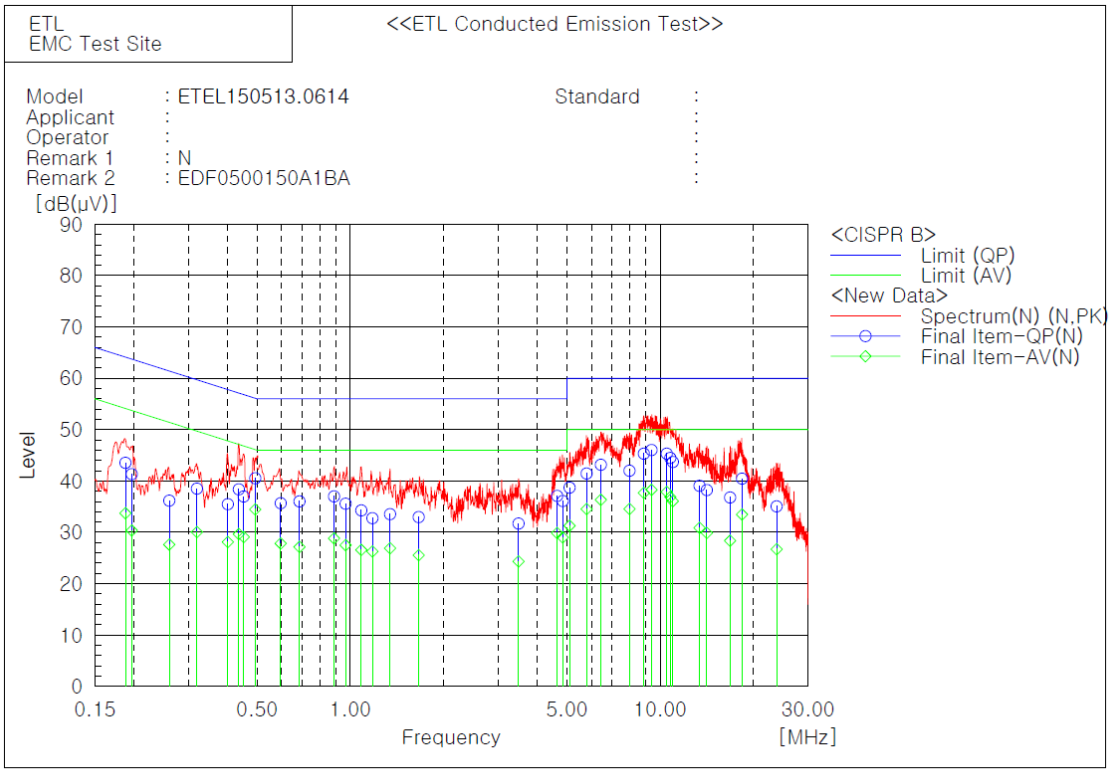
Line: Neutral



Final Result

--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.188	32.8	23.0	10.7	43.5	33.7	64.1	54.1	20.6	20.4
2	0.19717	30.6	19.7	10.7	41.3	30.4	63.7	53.7	22.4	23.3
3	0.26056	25.8	17.2	10.4	36.2	27.6	61.4	51.4	25.2	23.8
4	0.31981	28.1	19.6	10.4	38.5	30.0	59.7	49.7	21.2	19.7
5	0.40263	25.2	17.8	10.3	35.5	28.1	57.8	47.8	22.3	19.7
6	0.43687	28.1	19.3	10.3	38.4	29.6	57.1	47.1	18.7	17.5
7	0.45276	26.7	18.8	10.3	37.0	29.1	56.8	46.8	19.8	17.7
8	0.49369	30.2	24.2	10.3	40.5	34.5	56.1	46.1	15.6	11.6
9	0.5961	25.4	17.5	10.3	35.7	27.8	56.0	46.0	20.3	18.2
10	0.6857	25.7	16.9	10.3	36.0	27.2	56.0	46.0	20.0	18.8
11	0.886	26.8	18.6	10.2	37.0	28.8	56.0	46.0	19.0	17.2
12	0.96595	25.4	17.3	10.2	35.6	27.5	56.0	46.0	20.4	18.5
13	1.08495	24.1	16.4	10.2	34.3	26.6	56.0	46.0	21.7	19.4
14	1.1781	22.5	16.1	10.2	32.7	26.3	56.0	46.0	23.3	19.7
15	1.3434	23.3	16.7	10.2	33.5	26.9	56.0	46.0	22.5	19.1
16	1.66205	22.8	15.4	10.2	33.0	25.6	56.0	46.0	23.0	20.4
17	3.4917	21.6	14.2	10.1	31.7	24.3	56.0	46.0	24.3	21.7
18	4.65048	27.0	19.8	10.1	37.1	29.9	56.0	46.0	18.9	16.1
19	4.84968	26.0	18.9	10.1	36.1	29.0	56.0	46.0	19.9	17.0
20	5.10066	28.6	21.2	10.1	38.7	31.3	60.0	50.0	21.3	18.7
21	5.79042	31.3	24.4	10.1	41.4	34.5	60.0	50.0	18.6	15.5
22	6.43352	33.1	26.2	10.1	43.2	36.3	60.0	50.0	16.8	13.7
23	7.95872	31.9	24.5	10.1	42.0	34.6	60.0	50.0	18.0	15.4
24	8.85728	35.1	27.5	10.2	45.3	37.7	60.0	50.0	14.7	12.3
25	9.382	35.8	28.1	10.2	46.0	38.3	60.0	50.0	14.0	11.7
26	10.5036	35.0	27.6	10.3	45.3	37.9	60.0	50.0	14.7	12.1
27	10.7756	34.2	26.6	10.3	44.5	36.9	60.0	50.0	15.5	13.1
28	10.9862	33.4	25.8	10.3	43.7	36.1	60.0	50.0	16.3	13.9
29	13.3918	28.8	20.6	10.3	39.1	30.9	60.0	50.0	20.9	19.1
30	14.1394	27.8	19.5	10.4	38.2	29.9	60.0	50.0	21.8	20.1
31	16.8168	26.4	18.0	10.4	36.8	28.4	60.0	50.0	23.2	21.6
32	18.3688	30.1	23.1	10.4	40.5	33.5	60.0	50.0	19.5	16.5

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Final Result

--- N Phase ---

No.	Frequency	Reading QP	Reading AV	c.f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
33	23.7566	24.5	16.1	10.6	35.1	26.7	60.0	50.0	24.9	23.3

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EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.107(a) Class B
Test Date	June 28, 2015
Environmental of Test	(21.5 ± 0.0) °C, (43 ± 0) % R.H., (101.1 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3)
Adapter type	Adapter #2
Result	Passed by 9.50 dB

Conducted Emission Test Data

The following data and graph shows the highest levels of conducted emissions on both polarizations of hot and neutral line.
Detector mode: CISPR Quasi-Peak mode (6 dB Bandwidth: 9 kHz)

NOTES:

1. **Please see the measured data and graph in next page.**
2. **The c.f value was included the LISN factor and cable loss.**
3. **Result value = Reading + c.f**
4. **Margin value = Limit - Result**
5. **Measurement were performed at the AC Power Inlet in the frequency band of 150 kHz ~ 30 MHz according to the FCC Part 15.107(a) Class B.**
6. **If the average limit is met when using a Quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.**
7. **Channel 3 was the worst case operation mode.**

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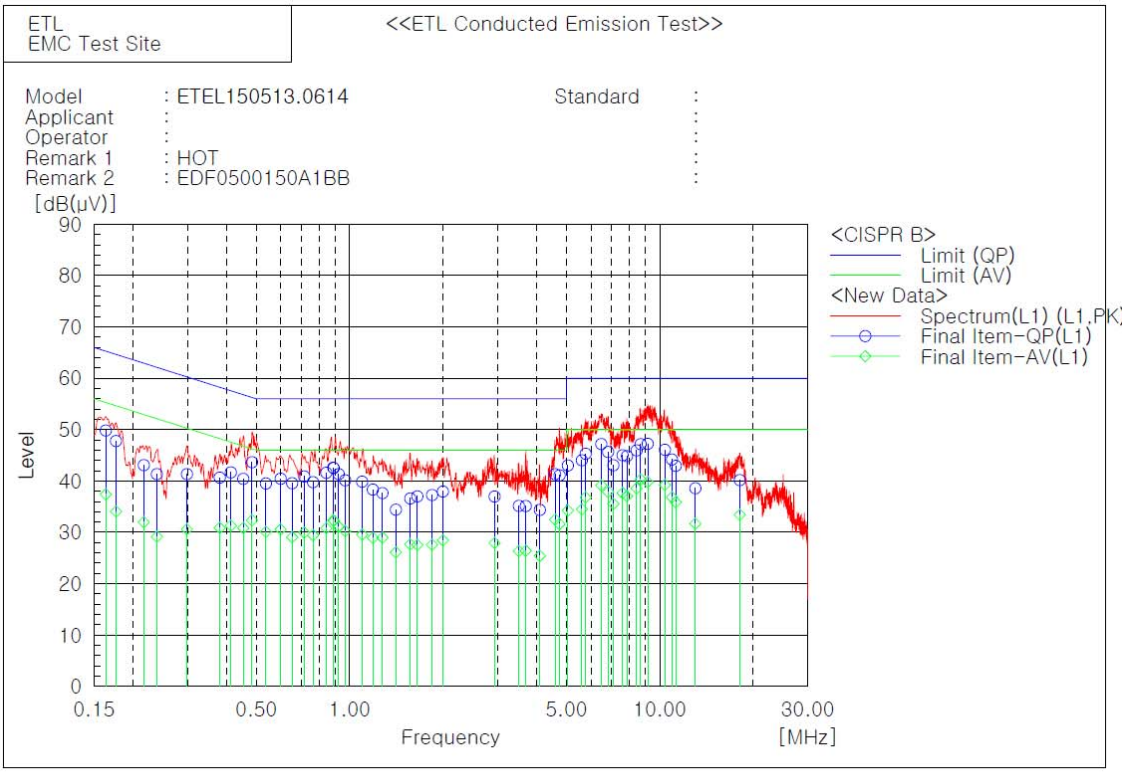
Line: HOT



Final Result

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.1636	38.9	26.5	10.9	49.8	37.4	65.3	55.3	15.5	17.9
2	0.17657	37.0	23.2	10.8	47.8	34.0	64.6	54.6	16.8	20.6
3	0.21701	32.5	21.4	10.6	43.1	32.0	62.9	52.9	19.8	20.9
4	0.239	30.8	18.7	10.5	41.3	29.2	62.1	52.1	20.8	22.9
5	0.2989	30.9	20.2	10.4	41.3	30.6	60.3	50.3	19.0	19.7
6	0.38126	30.4	20.6	10.3	40.7	30.9	58.3	48.3	17.6	17.4
7	0.41422	31.4	21.0	10.3	41.7	31.3	57.6	47.6	15.9	16.3
8	0.454	30.1	20.5	10.3	40.4	30.8	56.8	46.8	16.4	16.0
9	0.48457	33.4	22.0	10.3	43.7	32.3	56.3	46.3	12.6	14.0
10	0.53735	29.2	19.8	10.3	39.5	30.1	56.0	46.0	16.5	15.9
11	0.5995	30.1	20.3	10.3	40.4	30.6	56.0	46.0	15.6	15.4
12	0.6525	29.3	18.7	10.3	39.6	29.0	56.0	46.0	16.4	17.0
13	0.71375	30.6	19.6	10.3	40.9	29.9	56.0	46.0	15.1	16.1
14	0.7617	29.5	19.1	10.3	39.8	29.4	56.0	46.0	16.2	16.6
15	0.8407	31.4	20.6	10.2	41.6	30.8	56.0	46.0	14.4	15.2
16	0.8854	32.4	22.2	10.2	42.6	32.4	56.0	46.0	13.4	13.6
17	0.88835	32.3	22.0	10.2	42.5	32.2	56.0	46.0	13.5	13.8
18	0.9223	31.1	20.9	10.2	41.3	31.1	56.0	46.0	14.7	14.9
19	0.9675	29.9	20.0	10.2	40.1	30.2	56.0	46.0	15.9	15.8
20	1.0974	29.7	19.4	10.2	39.9	29.6	56.0	46.0	16.1	16.4
21	1.1882	28.1	18.7	10.2	38.3	28.9	56.0	46.0	17.7	17.1
22	1.27655	27.4	18.8	10.2	37.6	29.0	56.0	46.0	18.4	17.0
23	1.410	24.2	15.9	10.2	34.4	26.1	56.0	46.0	21.6	19.9
24	1.5688	26.4	17.5	10.2	36.6	27.7	56.0	46.0	19.4	18.3
25	1.6526	26.8	17.3	10.2	37.0	27.5	56.0	46.0	19.0	18.5
26	1.84425	27.1	17.4	10.2	37.3	27.6	56.0	46.0	18.7	18.4
27	2.000	27.7	18.3	10.2	37.9	28.5	56.0	46.0	18.1	17.5
28	2.93315	26.8	17.7	10.2	37.0	27.9	56.0	46.0	19.0	18.1
29	3.51174	25.1	16.2	10.1	35.2	26.3	56.0	46.0	20.8	19.7
30	3.70056	25.0	16.3	10.1	35.1	26.4	56.0	46.0	20.9	19.6
31	4.10418	24.3	15.3	10.1	34.4	25.4	56.0	46.0	21.6	20.6
32	4.59654	31.2	22.4	10.1	41.3	32.5	56.0	46.0	14.7	13.5

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Final Result

--- L1 Phase ---

No.	Frequency	Reading QP	Reading AV	c.f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
33	4.75134	31.0	21.5	10.1	41.1	31.6	56.0	46.0	14.9	14.4
34	5.05482	32.9	24.2	10.1	43.0	34.3	60.0	50.0	17.0	15.7
35	5.60778	33.9	24.4	10.1	44.0	34.5	60.0	50.0	16.0	15.5
36	5.76744	35.2	26.7	10.1	45.3	36.8	60.0	50.0	14.7	13.2
37	6.47576	37.1	29.1	10.1	47.2	39.2	60.0	50.0	12.8	10.8
38	6.8152	35.6	27.8	10.1	45.7	37.9	60.0	50.0	14.3	12.1
39	7.08632	33.0	25.4	10.1	43.1	35.5	60.0	50.0	16.9	14.5
40	7.58656	34.9	27.5	10.1	45.0	37.6	60.0	50.0	15.0	12.4
41	7.8372	34.8	27.0	10.1	44.9	37.1	60.0	50.0	15.1	12.9
42	8.41888	35.9	28.5	10.1	46.0	38.6	60.0	50.0	14.0	11.4
43	8.67672	37.1	30.2	10.1	47.2	40.3	60.0	50.0	12.8	9.7
44	9.14248	37.0	29.6	10.2	47.2	39.8	60.0	50.0	12.8	10.2
45	10.3924	35.9	29.0	10.2	46.1	39.2	60.0	50.0	13.9	10.8
46	10.9468	34.0	26.6	10.2	44.2	36.8	60.0	50.0	15.8	13.2
47	11.258	32.7	25.7	10.2	42.9	35.9	60.0	50.0	17.1	14.1
48	13.0244	28.3	21.4	10.3	38.6	31.7	60.0	50.0	21.4	18.3
49	18.1298	29.9	23.1	10.3	40.2	33.4	60.0	50.0	19.8	16.6

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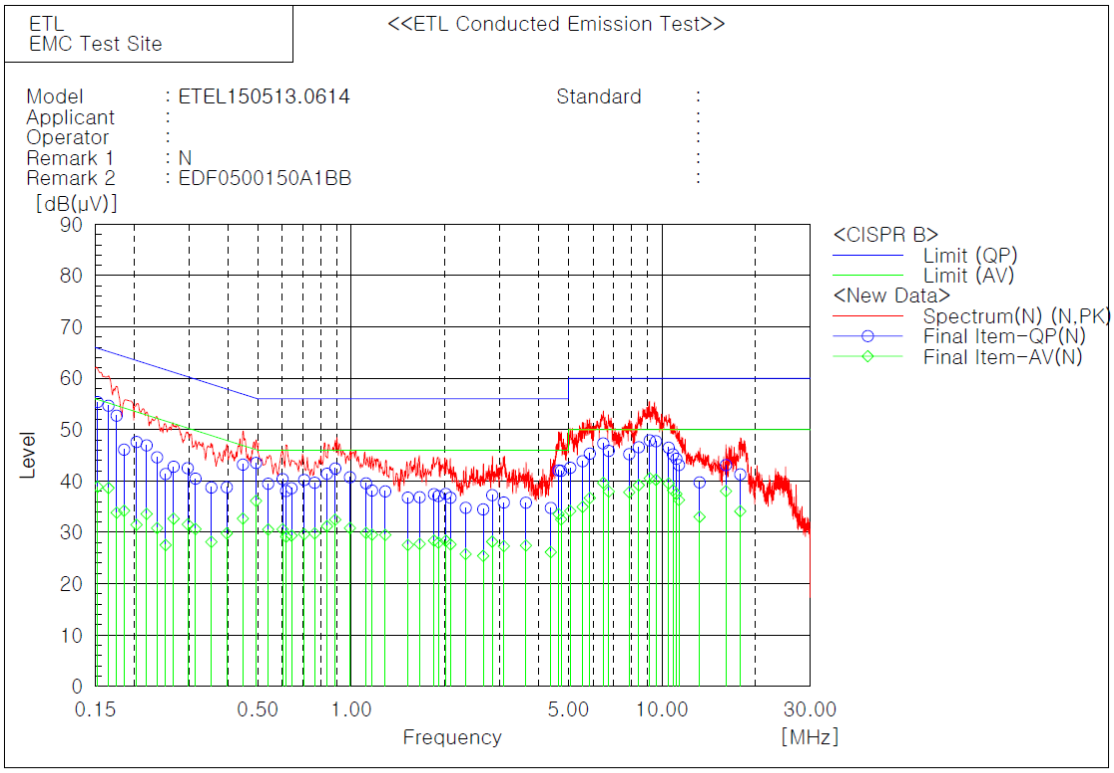
Line: Neutral



Final Result

--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.15246	44.3	27.7	11.1	55.4	38.8	65.9	55.9	10.5	17.1
2	0.16534	43.8	27.7	10.9	54.7	38.6	65.2	55.2	10.5	16.6
3	0.17566	41.9	23.0	10.8	52.7	33.8	64.7	54.7	12.0	20.9
4	0.18576	35.4	23.5	10.7	46.1	34.2	64.2	54.2	18.1	20.0
5	0.20359	37.0	20.9	10.6	47.6	31.5	63.5	53.5	15.9	22.0
6	0.21959	36.3	23.0	10.6	46.9	33.6	62.8	52.8	15.9	19.2
7	0.23705	34.1	20.3	10.5	44.6	30.8	62.2	52.2	17.6	21.4
8	0.25273	31.0	17.1	10.4	41.4	27.5	61.7	51.7	20.3	24.2
9	0.26806	32.4	22.3	10.4	42.8	32.7	61.2	51.2	18.4	18.5
10	0.29752	32.1	21.2	10.4	42.5	31.6	60.3	50.3	17.8	18.7
11	0.31542	30.1	20.2	10.4	40.5	30.6	59.8	49.8	19.3	19.2
12	0.35476	28.4	17.8	10.3	38.7	28.1	58.9	48.9	20.2	20.8
13	0.39751	28.5	19.5	10.3	38.8	29.8	57.9	47.9	19.1	18.1
14	0.44783	32.9	22.4	10.3	43.2	32.7	56.9	46.9	13.7	14.2
15	0.49372	33.2	25.8	10.3	43.5	36.1	56.1	46.1	12.6	10.0
16	0.5404	29.2	20.3	10.3	39.5	30.6	56.0	46.0	16.5	15.4
17	0.6012	30.1	20.3	10.3	40.4	30.6	56.0	46.0	15.6	15.4
18	0.61715	27.8	18.9	10.3	38.1	29.2	56.0	46.0	17.9	16.8
19	0.64235	28.3	19.1	10.3	38.6	29.4	56.0	46.0	17.4	16.6
20	0.7055	29.9	19.3	10.3	40.2	29.6	56.0	46.0	15.8	16.4
21	0.7626	29.3	19.5	10.3	39.6	29.8	56.0	46.0	16.4	16.2
22	0.8357	31.1	20.9	10.3	41.4	31.2	56.0	46.0	14.6	14.8
23	0.88875	32.2	22.3	10.2	42.4	32.5	56.0	46.0	13.6	13.5
24	0.9905	30.5	20.6	10.2	40.7	30.8	56.0	46.0	15.3	15.2
25	1.1167	29.3	19.7	10.2	39.5	29.9	56.0	46.0	16.5	16.1
26	1.1673	27.9	19.3	10.2	38.1	29.5	56.0	46.0	17.9	16.5
27	1.2869	27.8	19.3	10.2	38.0	29.5	56.0	46.0	18.0	16.5
28	1.5208	26.6	17.3	10.2	36.8	27.5	56.0	46.0	19.2	18.5
29	1.6604	26.6	17.6	10.2	36.8	27.8	56.0	46.0	19.2	18.2
30	1.84585	27.2	18.2	10.2	37.4	28.4	56.0	46.0	18.6	17.6
31	1.90665	26.9	17.8	10.2	37.1	28.0	56.0	46.0	18.9	18.0
32	2.0164	27.3	18.2	10.2	37.5	28.4	56.0	46.0	18.5	17.6

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Final Result

--- N Phase ---

No.	Frequency	Reading QP	Reading AV	c.f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
33	2.08565	26.5	17.4	10.2	36.7	27.6	56.0	46.0	19.3	18.4
34	2.3354	24.6	15.6	10.2	34.8	25.8	56.0	46.0	21.2	20.2
35	2.6583	24.3	15.2	10.2	34.5	25.4	56.0	46.0	21.5	20.6
36	2.84265	27.0	18.0	10.2	37.2	28.2	56.0	46.0	18.8	17.8
37	3.09798	25.6	17.1	10.2	35.8	27.3	56.0	46.0	20.2	18.7
38	3.64866	25.7	17.4	10.1	35.8	27.5	56.0	46.0	20.2	18.5
39	4.3899	24.7	16.1	10.1	34.8	26.2	56.0	46.0	21.2	19.8
40	4.64838	31.9	23.4	10.1	42.0	33.5	56.0	46.0	14.0	12.5
41	4.73646	31.9	22.4	10.1	42.0	32.5	56.0	46.0	14.0	13.5
42	5.06988	32.5	24.0	10.1	42.6	34.1	60.0	50.0	17.4	15.9
43	5.55282	33.7	24.9	10.1	43.8	35.0	60.0	50.0	16.2	15.0
44	5.8554	35.2	26.6	10.1	45.3	36.7	60.0	50.0	14.7	13.3
45	6.47336	37.2	29.5	10.1	47.3	39.6	60.0	50.0	12.7	10.4
46	6.7408	35.8	27.9	10.1	45.9	38.0	60.0	50.0	14.1	12.0
47	7.8444	35.1	27.7	10.1	45.2	37.8	60.0	50.0	14.8	12.2
48	8.42072	36.4	29.0	10.2	46.6	39.2	60.0	50.0	13.4	10.8
49	9.132	37.7	30.3	10.2	47.9	40.5	60.0	50.0	12.1	9.5
50	9.56864	37.5	30.1	10.2	47.7	40.3	60.0	50.0	12.3	9.7
51	10.509	36.2	29.2	10.3	46.5	39.5	60.0	50.0	13.5	10.5
52	10.8444	34.9	27.9	10.3	45.2	38.2	60.0	50.0	14.8	11.8
53	11.1232	34.0	27.2	10.3	44.3	37.5	60.0	50.0	15.7	12.5
54	11.3426	32.8	26.0	10.3	43.1	36.3	60.0	50.0	16.9	13.7
55	13.211	29.4	22.7	10.3	39.7	33.0	60.0	50.0	20.3	17.0
56	16.0702	32.7	27.6	10.4	43.1	38.0	60.0	50.0	16.9	12.0
57	17.855	30.9	23.7	10.4	41.3	34.1	60.0	50.0	18.7	15.9

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Open site: #499-1, Sagot-ri, Seosin-myeon, Hwaseong-si, Gyeonggi-do, 445-882, Korea

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.107(a) Class B
Test Date	June 28, 2015
Environmental of Test	(21.9 ± 0.0) °C, (42 ± 0) % R.H., (101.1 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3)
Adapter type	Adapter #3
Result	Passed by 6.00 dB

Conducted Emission Test Data

The following data and graph shows the highest levels of conducted emissions on both polarizations of hot and neutral line.
Detector mode: CISPR Quasi-Peak mode (6 dB Bandwidth: 9 kHz)

NOTES:

1. **Please see the measured data and graph in next page.**
2. **The c.f value was included the LISN factor and cable loss.**
3. **Result value = Reading + c.f**
4. **Margin value = Limit - Result**
5. **Measurement were performed at the AC Power Inlet in the frequency band of 150 kHz ~ 30 MHz according to the FCC Part 15.107(a) Class B.**
6. **If the average limit is met when using a Quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.**
7. **Channel 3 was the worst case operation mode.**

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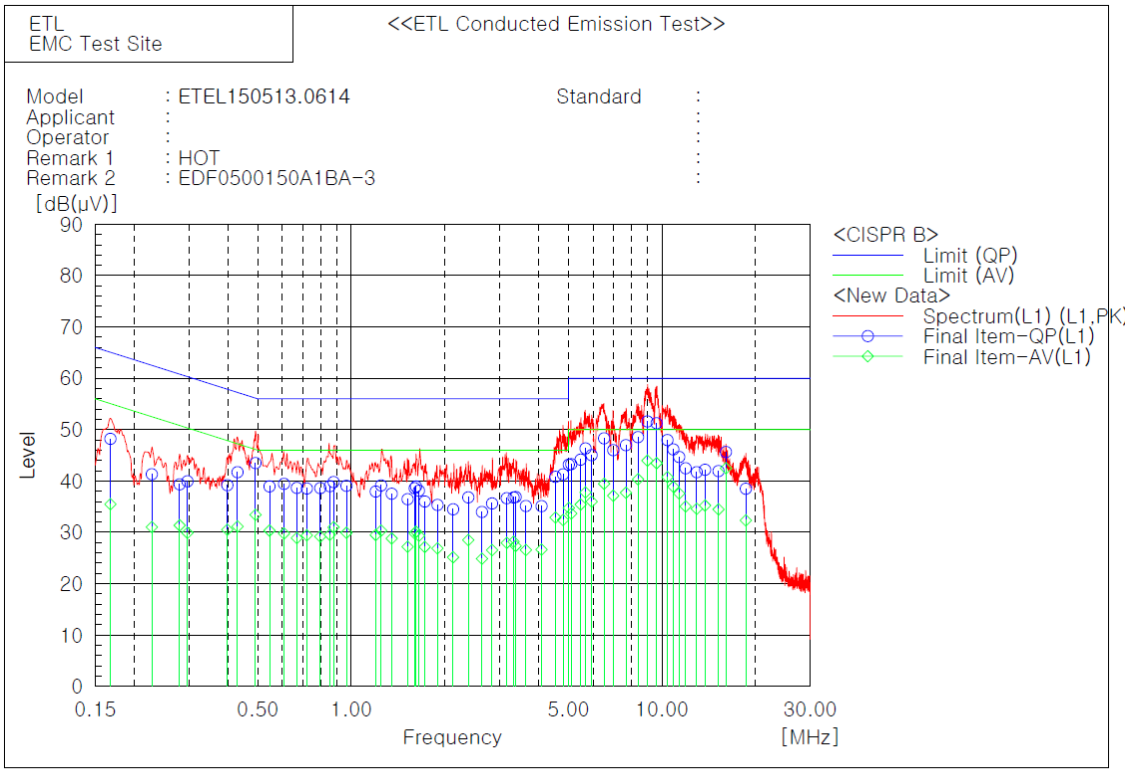
Line: HOT



Final Result

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.16779	37.4	24.7	10.8	48.2	35.5	65.1	55.1	16.9	19.6
2	0.22804	30.8	20.5	10.5	41.3	31.0	62.5	52.5	21.2	21.5
3	0.28033	28.9	21.0	10.4	39.3	31.4	60.8	50.8	21.5	19.4
4	0.29701	29.5	19.5	10.4	39.9	29.9	60.3	50.3	20.4	20.4
5	0.39943	28.9	20.2	10.3	39.2	30.5	57.9	47.9	18.7	17.4
6	0.43061	31.4	20.8	10.3	41.7	31.1	57.2	47.2	15.5	16.1
7	0.49187	33.2	23.1	10.3	43.5	33.4	56.1	46.1	12.6	12.7
8	0.5455	28.6	20.0	10.3	38.9	30.3	56.0	46.0	17.1	15.7
9	0.6075	29.2	19.5	10.3	39.5	29.8	56.0	46.0	16.5	16.2
10	0.66805	28.4	18.6	10.3	38.7	28.9	56.0	46.0	17.3	17.1
11	0.71955	28.2	19.1	10.3	38.5	29.4	56.0	46.0	17.5	16.6
12	0.7953	28.3	18.9	10.3	38.6	29.2	56.0	46.0	17.4	16.8
13	0.853	28.8	19.3	10.2	39.0	29.5	56.0	46.0	17.0	16.5
14	0.87725	29.6	20.8	10.2	39.8	31.0	56.0	46.0	16.2	15.0
15	0.9652	28.9	19.7	10.2	39.1	29.9	56.0	46.0	16.9	16.1
16	1.1995	27.8	19.3	10.2	38.0	29.5	56.0	46.0	18.0	16.5
17	1.24815	28.9	20.1	10.2	39.1	30.3	56.0	46.0	16.9	15.7
18	1.35035	27.3	18.6	10.2	37.5	28.8	56.0	46.0	18.5	17.2
19	1.5178	26.3	17.0	10.2	36.5	27.2	56.0	46.0	19.5	18.8
20	1.59955	28.4	19.6	10.2	38.6	29.8	56.0	46.0	17.4	16.2
21	1.6164	28.7	19.9	10.2	38.9	30.1	56.0	46.0	17.1	15.9
22	1.6523	27.9	19.2	10.2	38.1	29.4	56.0	46.0	17.9	16.6
23	1.7258	25.8	17.0	10.2	36.0	27.2	56.0	46.0	20.0	18.8
24	1.8955	25.1	16.7	10.2	35.3	26.9	56.0	46.0	20.7	19.1
25	2.12875	24.3	15.0	10.2	34.5	25.2	56.0	46.0	21.5	20.8
26	2.37975	26.6	18.3	10.2	36.8	28.5	56.0	46.0	19.2	17.5
27	2.63435	23.8	14.7	10.2	34.0	24.9	56.0	46.0	22.0	21.1
28	2.8404	25.4	16.3	10.2	35.6	26.5	56.0	46.0	20.4	19.5
29	3.16578	26.6	17.8	10.1	36.7	27.9	56.0	46.0	19.3	18.1
30	3.33012	26.7	18.1	10.1	36.8	28.2	56.0	46.0	19.2	17.8
31	3.38364	26.8	17.3	10.1	36.9	27.4	56.0	46.0	19.1	18.7
32	3.65076	25.0	16.5	10.1	35.1	26.6	56.0	46.0	20.9	19.4

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Final Result

--- L1 Phase ---

No.	Frequency	Reading QP	Reading AV	c.f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
33	4.09854	25.0	16.5	10.1	35.1	26.6	56.0	46.0	20.9	19.4
34	4.54476	30.7	22.8	10.1	40.8	32.9	56.0	46.0	15.2	13.1
35	4.8063	31.2	22.3	10.1	41.3	32.4	56.0	46.0	14.7	13.6
36	5.0139	33.1	24.6	10.1	43.2	34.7	60.0	50.0	16.8	15.3
37	5.1048	33.2	23.6	10.1	43.3	33.7	60.0	50.0	16.7	16.3
38	5.4756	34.1	25.3	10.1	44.2	35.4	60.0	50.0	15.8	14.6
39	5.67756	36.2	27.7	10.1	46.3	37.8	60.0	50.0	13.7	12.2
40	5.93718	34.9	25.9	10.1	45.0	36.0	60.0	50.0	15.0	14.0
41	6.51256	38.2	29.4	10.1	48.3	39.5	60.0	50.0	11.7	10.5
42	6.9716	35.9	27.1	10.1	46.0	37.2	60.0	50.0	14.0	12.8
43	7.65416	36.9	27.6	10.1	47.0	37.7	60.0	50.0	13.0	12.3
44	8.37808	38.5	30.2	10.1	48.6	40.3	60.0	50.0	11.4	9.7
45	8.9804	41.5	33.9	10.1	51.6	44.0	60.0	50.0	8.4	6.0
46	9.60856	41.0	33.3	10.2	51.2	43.5	60.0	50.0	8.8	6.5
47	10.413	37.8	30.6	10.2	48.0	40.8	60.0	50.0	12.0	9.2
48	10.880	35.9	28.7	10.2	46.1	38.9	60.0	50.0	13.9	11.1
49	11.359	34.5	27.4	10.2	44.7	37.6	60.0	50.0	15.3	12.4
50	11.9194	32.3	24.8	10.2	42.5	35.0	60.0	50.0	17.5	15.0
51	12.9382	31.4	24.3	10.3	41.7	34.6	60.0	50.0	18.3	15.4
52	13.7594	31.9	24.9	10.3	42.2	35.2	60.0	50.0	17.8	14.8
53	15.2104	31.6	24.2	10.3	41.9	34.5	60.0	50.0	18.1	15.5
54	16.0698	35.4	32.2	10.3	45.7	42.5	60.0	50.0	14.3	7.5
55	18.6186	28.2	22.0	10.3	38.5	32.3	60.0	50.0	21.5	17.7

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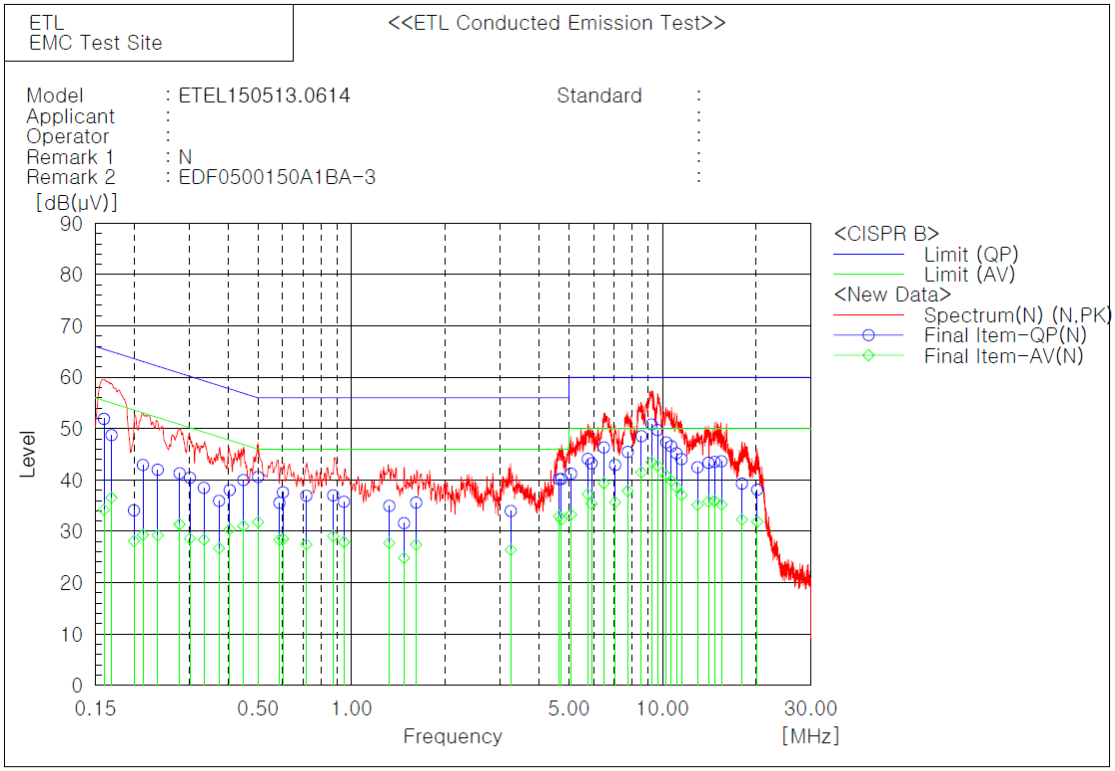
Line: Neutral



Final Result

--- N Phase ---

No.	Frequency	Reading QP	Reading AV	c.f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
1	0.15984	40.9	23.2	11.0	51.9	34.2	65.5	55.5	13.6	21.3
2	6.47576	36.2	29.3	10.1	46.3	39.4	60.0	50.0	13.7	10.6
3	7.72376	35.4	27.8	10.1	45.5	37.9	60.0	50.0	14.5	12.1
4	9.22224	40.6	33.2	10.2	50.8	43.4	60.0	50.0	9.2	6.6
5	9.63896	39.5	32.6	10.2	49.7	42.8	60.0	50.0	10.3	7.2
6	14.7104	33.1	25.5	10.4	43.5	35.9	60.0	50.0	16.5	14.1
7	0.21333	32.3	18.7	10.6	42.9	29.3	63.1	53.1	20.2	23.8
8	0.19957	23.4	17.4	10.7	34.1	28.1	63.6	53.6	29.5	25.5
9	0.23788	31.5	18.7	10.5	42.0	29.2	62.2	52.2	20.2	23.0
10	0.27989	30.9	21.0	10.4	41.3	31.4	60.8	50.8	19.5	19.4
11	0.30229	30.0	18.2	10.4	40.4	28.6	60.2	50.2	19.8	21.6
12	0.33491	28.2	18.1	10.3	38.5	28.4	59.3	49.3	20.8	20.9
13	0.37476	25.6	16.4	10.3	35.9	26.7	58.4	48.4	22.5	21.7
14	0.40551	27.8	20.1	10.3	38.1	30.4	57.7	47.7	19.6	17.3
15	0.44892	29.7	20.7	10.3	40.0	31.0	56.9	46.9	16.9	15.9
16	0.50035	30.3	21.5	10.3	40.6	31.8	56.0	46.0	15.4	14.2
17	0.58625	25.2	18.0	10.3	35.5	28.3	56.0	46.0	20.5	17.7
18	0.87285	26.8	18.9	10.2	37.0	29.1	56.0	46.0	19.0	16.9
19	0.7149	26.6	17.2	10.3	36.9	27.5	56.0	46.0	19.1	18.5
20	1.3226	24.8	17.5	10.2	35.0	27.7	56.0	46.0	21.0	18.3
21	3.24912	23.9	16.3	10.1	34.0	26.4	56.0	46.0	22.0	19.6
22	4.73238	30.1	22.2	10.1	40.2	32.3	56.0	46.0	15.8	13.7
23	5.07978	31.1	23.2	10.1	41.2	33.3	60.0	50.0	18.8	16.7
24	5.74608	34.0	27.1	10.1	44.1	37.2	60.0	50.0	15.9	12.8
25	8.54784	38.3	31.3	10.2	48.5	41.5	60.0	50.0	11.5	8.5
26	10.2878	37.0	30.5	10.3	47.3	40.8	60.0	50.0	12.7	9.2
27	10.6678	36.3	29.5	10.3	46.6	39.8	60.0	50.0	13.4	10.2
28	11.083	34.9	28.3	10.3	45.2	38.6	60.0	50.0	14.8	11.4
29	11.501	33.8	26.7	10.3	44.1	37.0	60.0	50.0	15.9	13.0
30	12.9564	32.2	24.8	10.3	42.5	35.1	60.0	50.0	17.5	14.9
31	14.0562	32.9	25.4	10.4	43.3	35.8	60.0	50.0	16.7	14.2
32	15.4614	33.2	24.8	10.4	43.6	35.2	60.0	50.0	16.4	14.8

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Final Result

--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
33	18.0086	28.9	21.9	10.4	39.3	32.3	60.0	50.0	20.7	17.7
34	20.1612	27.6	21.4	10.5	38.1	31.9	60.0	50.0	21.9	18.1
35	7.0412	32.8	25.6	10.1	42.9	35.7	60.0	50.0	17.1	14.3
36	5.90988	33.1	25.3	10.1	43.2	35.4	60.0	50.0	16.8	14.6
37	4.64748	30.1	22.8	10.1	40.2	32.9	56.0	46.0	15.8	13.1
38	1.47535	21.4	14.6	10.2	31.6	24.8	56.0	46.0	24.4	21.2
39	0.6019	27.3	18.2	10.3	37.6	28.5	56.0	46.0	18.4	17.5
40	0.16896	37.9	25.7	10.8	48.7	36.5	65.0	55.0	16.3	18.5
41	0.94505	25.6	17.7	10.2	35.8	27.9	56.0	46.0	20.2	18.1
42	1.6137	25.4	17.2	10.2	35.6	27.4	56.0	46.0	20.4	18.6

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Open site: #499-1, Sagot-ri, Seosin-myeon, Hwaseong-si, Gyeonggi-do, 445-882, Korea

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.107(a) Class B
Test Date	June 28, 2015
Environmental of Test	(22.0 ± 0.0) °C, (42 ± 0) % R.H., (101.1 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3)
Adapter type	Adapter #4
Result	Passed by 5.70 dB

Conducted Emission Test Data

The following data and graph shows the highest levels of conducted emissions on both polarizations of hot and neutral line.
Detector mode: CISPR Quasi-Peak mode (6 dB Bandwidth: 9 kHz)

NOTES:

1. **Please see the measured data and graph in next page.**
2. **The c.f value was included the LISN factor and cable loss.**
3. **Result value = Reading + c.f**
4. **Margin value = Limit - Result**
5. **Measurement were performed at the AC Power Inlet in the frequency band of 150 kHz ~ 30 MHz according to the FCC Part 15.107(a) Class B.**
6. **If the average limit is met when using a Quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.**
7. **Channel 3 was the worst case operation mode.**

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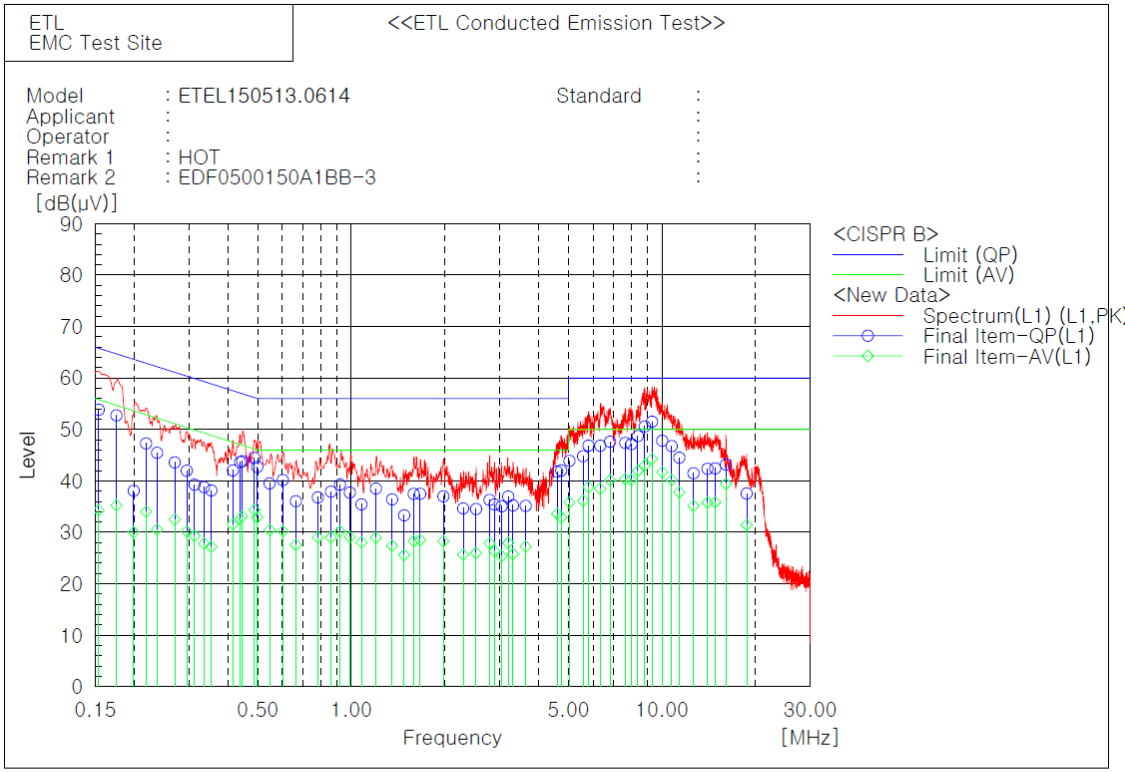
Line: HOT



Final Result

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.15389	42.7	23.2	11.1	53.8	34.3	65.8	55.8	12.0	21.5
2	0.1754	41.9	24.5	10.8	52.7	35.3	64.7	54.7	12.0	19.4
3	0.19955	27.4	19.3	10.7	38.1	30.0	63.6	53.6	25.5	23.6
4	0.21849	36.7	23.4	10.6	47.3	34.0	62.9	52.9	15.6	18.9
5	0.2371	35.0	20.0	10.5	45.5	30.5	62.2	52.2	16.7	21.7
6	0.27025	33.2	22.1	10.4	43.6	32.5	61.1	51.1	17.5	18.6
7	0.2955	31.6	19.8	10.4	42.0	30.2	60.4	50.4	18.4	20.2
8	0.31303	28.9	18.9	10.4	39.3	29.3	59.9	49.9	20.6	20.6
9	0.33579	28.4	17.4	10.4	38.8	27.8	59.3	49.3	20.5	21.5
10	0.35458	27.8	16.9	10.3	38.1	27.2	58.9	48.9	20.8	21.7
11	0.41597	31.7	21.2	10.3	42.0	31.5	57.5	47.5	15.5	16.0
12	0.43918	33.4	22.4	10.3	43.7	32.7	57.1	47.1	13.4	14.4
13	0.44595	33.5	22.8	10.3	43.8	33.1	57.0	47.0	13.2	13.9
14	0.48811	34.2	24.1	10.3	44.5	34.4	56.2	46.2	11.7	11.8
15	0.49838	32.4	22.6	10.3	42.7	32.9	56.0	46.0	13.3	13.1
16	0.54625	29.2	20.1	10.3	39.5	30.4	56.0	46.0	16.5	15.6
17	0.60205	29.9	19.9	10.3	40.2	30.2	56.0	46.0	15.8	15.8
18	0.66315	25.8	17.2	10.3	36.1	27.5	56.0	46.0	19.9	18.5
19	0.7809	26.5	18.7	10.3	36.8	29.0	56.0	46.0	19.2	17.0
20	0.86025	27.7	18.8	10.2	37.9	29.0	56.0	46.0	18.1	17.0
21	0.91985	29.1	20.0	10.2	39.3	30.2	56.0	46.0	16.7	15.8
22	0.98935	27.5	18.9	10.2	37.7	29.1	56.0	46.0	18.3	16.9
23	1.07895	25.2	17.9	10.2	35.4	28.1	56.0	46.0	20.6	17.9
24	1.200	28.3	18.7	10.2	38.5	28.9	56.0	46.0	17.5	17.1
25	1.35365	26.2	17.2	10.2	36.4	27.4	56.0	46.0	19.6	18.6
26	1.48035	23.1	15.4	10.2	33.3	25.6	56.0	46.0	22.7	20.4
27	1.5894	27.3	18.1	10.2	37.5	28.3	56.0	46.0	18.5	17.7
28	1.6669	27.3	18.3	10.2	37.5	28.5	56.0	46.0	18.5	17.5
29	1.97935	26.8	18.1	10.2	37.0	28.3	56.0	46.0	19.0	17.7
30	2.2929	24.4	15.5	10.2	34.6	25.7	56.0	46.0	21.4	20.3
31	2.52215	24.3	15.8	10.2	34.5	26.0	56.0	46.0	21.5	20.0
32	2.78785	26.1	17.7	10.2	36.3	27.9	56.0	46.0	19.7	18.1

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Final Result

--- L1 Phase ---

No.	Frequency	Reading QP	Reading AV	c.f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
33	2.8916	25.2	16.2	10.2	35.4	26.4	56.0	46.0	20.6	19.6
34	3.0474	25.0	15.3	10.1	35.1	25.4	56.0	46.0	20.9	20.6
35	3.19932	26.8	17.8	10.1	36.9	27.9	56.0	46.0	19.1	18.1
36	3.31506	25.1	15.7	10.1	35.2	25.8	56.0	46.0	20.8	20.2
37	3.64302	25.0	17.1	10.1	35.1	27.2	56.0	46.0	20.9	18.8
38	4.596	31.7	23.5	10.1	41.8	33.6	56.0	46.0	14.2	12.4
39	4.7415	31.9	22.9	10.1	42.0	33.0	56.0	46.0	14.0	13.0
40	5.03826	33.8	25.7	10.1	43.9	35.8	60.0	50.0	16.1	14.2
41	5.57166	34.7	26.0	10.1	44.8	36.1	60.0	50.0	15.2	13.9
42	5.79798	36.8	28.7	10.1	46.9	38.8	60.0	50.0	13.1	11.2
43	6.32888	36.7	28.4	10.1	46.8	38.5	60.0	50.0	13.2	11.5
44	6.80904	37.5	30.0	10.1	47.6	40.1	60.0	50.0	12.4	9.9
45	7.61344	37.3	30.3	10.1	47.4	40.4	60.0	50.0	12.6	9.6
46	7.97456	37.1	30.1	10.1	47.2	40.2	60.0	50.0	12.8	9.8
47	8.35704	38.6	31.9	10.1	48.7	42.0	60.0	50.0	11.3	8.0
48	8.80536	40.5	32.9	10.1	50.6	43.0	60.0	50.0	9.4	7.0
49	9.28984	41.3	34.1	10.2	51.5	44.3	60.0	50.0	8.5	5.7
50	10.02176	37.6	31.5	10.2	47.8	41.7	60.0	50.0	12.2	8.3
51	10.7496	36.6	30.0	10.2	46.8	40.2	60.0	50.0	13.2	9.8
52	11.368	34.3	27.6	10.2	44.5	37.8	60.0	50.0	15.5	12.2
53	12.6336	31.2	24.9	10.3	41.5	35.2	60.0	50.0	18.5	14.8
54	14.0136	32.1	25.5	10.3	42.4	35.8	60.0	50.0	17.6	14.2
55	14.832	32.1	25.6	10.3	42.4	35.9	60.0	50.0	17.6	14.1
56	16.0666	32.9	29.1	10.3	43.2	39.4	60.0	50.0	16.8	10.6
57	18.7438	27.3	21.2	10.2	37.5	31.4	60.0	50.0	22.5	18.6

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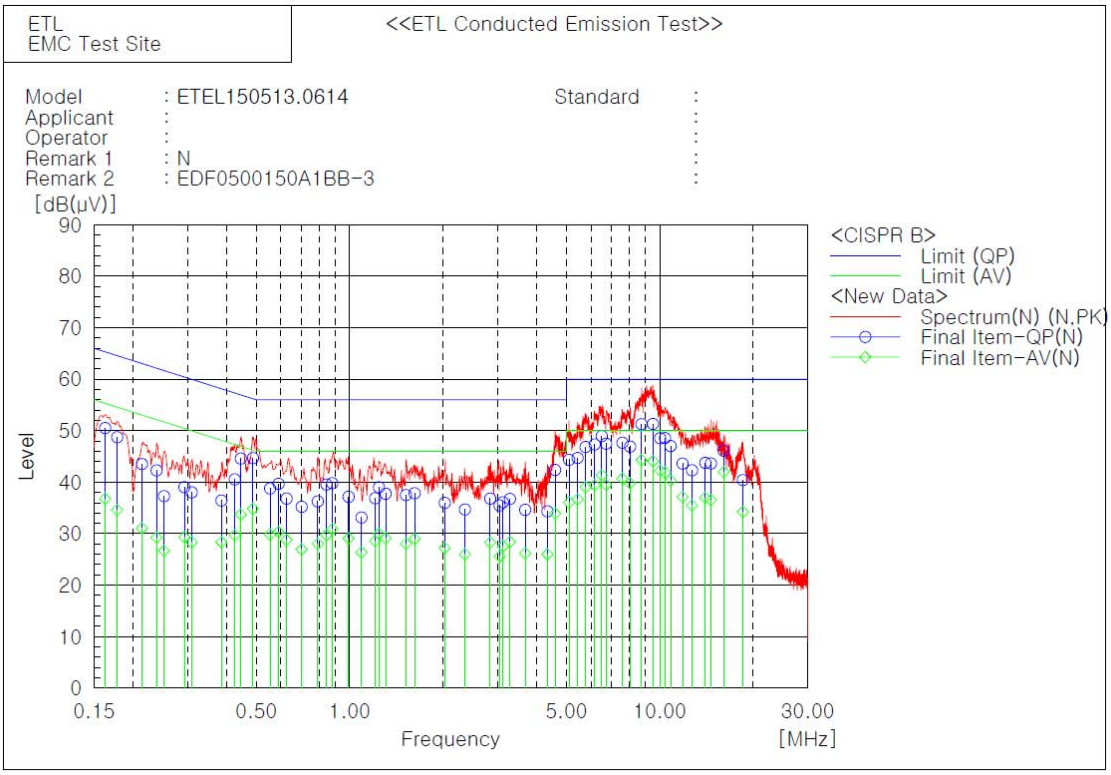
Line: Neutral



Final Result

--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.16285	39.6	25.9	10.9	50.5	36.8	65.3	55.3	14.8	18.5
2	0.17822	38.0	23.9	10.7	48.7	34.6	64.6	54.6	15.9	20.0
3	0.21402	32.9	20.4	10.6	43.5	31.0	63.0	53.0	19.5	22.0
4	0.23854	31.8	18.7	10.5	42.3	29.2	62.1	52.1	19.8	22.9
5	0.25205	26.9	16.3	10.4	37.3	26.7	61.7	51.7	24.4	25.0
6	0.29337	28.6	18.9	10.4	39.0	29.3	60.4	50.4	21.4	21.1
7	0.30956	27.6	17.9	10.4	38.0	28.3	60.0	50.0	22.0	21.7
8	0.38626	26.1	18.1	10.3	36.4	28.4	58.1	48.1	21.7	19.7
9	0.42619	30.3	19.4	10.3	40.6	29.7	57.3	47.3	16.7	17.6
10	0.44589	34.3	23.4	10.3	44.6	33.7	57.0	47.0	12.4	13.3
11	0.48831	34.4	24.5	10.3	44.7	34.8	56.2	46.2	11.5	11.4
12	0.55425	28.5	19.6	10.3	38.8	29.9	56.0	46.0	17.2	16.1
13	0.59055	29.4	20.0	10.3	39.7	30.3	56.0	46.0	16.3	15.7
14	0.626	26.5	18.5	10.3	36.8	28.8	56.0	46.0	19.2	17.2
15	0.70025	24.9	16.6	10.3	35.2	26.9	56.0	46.0	20.8	19.1
16	0.7894	26.0	17.7	10.3	36.3	28.0	56.0	46.0	19.7	18.0
17	0.84245	29.3	19.5	10.2	39.5	29.7	56.0	46.0	16.5	16.3
18	0.8793	29.6	20.7	10.2	39.8	30.9	56.0	46.0	16.2	15.1
19	0.99235	27.0	18.9	10.2	37.2	29.1	56.0	46.0	18.8	16.9
20	1.0918	22.9	16.1	10.2	33.1	26.3	56.0	46.0	22.9	19.7
21	1.20915	26.7	18.4	10.2	36.9	28.6	56.0	46.0	19.1	17.4
22	1.24305	28.8	19.8	10.2	39.0	30.0	56.0	46.0	17.0	16.0
23	1.3068	27.6	18.9	10.2	37.8	29.1	56.0	46.0	18.2	16.9
24	1.52015	27.3	17.8	10.2	37.5	28.0	56.0	46.0	18.5	18.0
25	1.62105	27.6	18.8	10.2	37.8	29.0	56.0	46.0	18.2	17.0
26	2.0272	25.8	17.0	10.2	36.0	27.2	56.0	46.0	20.0	18.8
27	2.35425	24.5	15.8	10.2	34.7	26.0	56.0	46.0	21.3	20.0
28	2.84025	26.6	18.1	10.2	36.8	28.3	56.0	46.0	19.2	17.7
29	3.04332	25.3	15.3	10.2	35.5	25.5	56.0	46.0	20.5	20.5
30	3.12306	25.9	17.3	10.2	36.1	27.5	56.0	46.0	19.9	18.5
31	3.28938	26.6	18.3	10.1	36.7	28.4	56.0	46.0	19.3	17.6
32	3.6831	24.5	16.1	10.1	34.6	26.2	56.0	46.0	21.4	19.8

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Final Result

--- N Phase ---

No.	Frequency	Reading QP	Reading AV	c.f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
33	4.3425	24.3	15.9	10.1	34.4	26.0	56.0	46.0	21.6	20.0
34	4.59834	32.3	23.8	10.1	42.4	33.9	56.0	46.0	13.6	12.1
35	5.10126	34.3	26.0	10.1	44.4	36.1	60.0	50.0	15.6	13.9
36	5.4351	34.6	26.6	10.1	44.7	36.7	60.0	50.0	15.3	13.3
37	5.76534	36.7	29.0	10.1	46.8	39.1	60.0	50.0	13.2	10.9
38	6.16656	37.2	29.4	10.1	47.3	39.5	60.0	50.0	12.7	10.5
39	6.50144	38.8	31.3	10.1	48.9	41.4	60.0	50.0	11.1	8.6
40	6.716	37.4	29.4	10.1	47.5	39.5	60.0	50.0	12.5	10.5
41	7.57944	37.6	30.6	10.1	47.7	40.7	60.0	50.0	12.3	9.3
42	8.02824	36.8	29.7	10.1	46.9	39.8	60.0	50.0	13.1	10.2
43	8.7284	41.1	34.1	10.2	51.3	44.3	60.0	50.0	8.7	5.7
44	9.50656	41.1	33.9	10.2	51.3	44.1	60.0	50.0	8.7	5.9
45	10.0276	38.3	32.0	10.2	48.5	42.2	60.0	50.0	11.5	7.8
46	10.4004	38.3	31.6	10.3	48.6	41.9	60.0	50.0	11.4	8.1
47	10.8356	36.7	30.0	10.3	47.0	40.3	60.0	50.0	13.0	9.7
48	11.8416	33.3	26.9	10.3	43.6	37.2	60.0	50.0	16.4	12.8
49	12.7156	32.0	25.2	10.3	42.3	35.5	60.0	50.0	17.7	14.5
50	14.0244	33.4	26.6	10.4	43.8	37.0	60.0	50.0	16.2	13.0
51	14.6242	33.2	26.1	10.4	43.6	36.5	60.0	50.0	16.4	13.5
52	16.0688	35.7	31.6	10.4	46.1	42.0	60.0	50.0	13.9	8.0
53	18.540	30.0	23.8	10.4	40.4	34.2	60.0	50.0	19.6	15.8

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5.3 Radiated Emissions Measurement

5.3.1 Radiated Emissions Data

- Below 1 GHz

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.109(a) Class B
Test Date	June 30, 2015
Environmental of Test	(30.9 ± 1.0) °C, (57 ± 2) % R.H., (99.6 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3)
Adapter type	Adapter #1
Result	Passed by 8.10 dB

Radiated Emission Test Data

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.
Detector mode: CISPR Quasi-Peak mode (6 dB Bandwidth: 120 kHz)

Frequency [MHz]	Reading [dB(μV)]	Polarization (*H/**V)	Ant. Factor [dB/m]	Cable Loss [dB(μV)]	Height [cm]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
38.37	18.51	V	12.58	0.81	100	31.90	40.00	8.10
46.76	13.16	V	13.18	0.86	100	27.20	40.00	12.80
51.42	10.68	V	13.11	0.91	100	24.70	40.00	15.30
216.04	6.90	H	10.13	1.97	384	19.00	46.00	27.00
397.65	9.54	V	15.88	2.88	146	28.30	46.00	17.70

NOTES:

1. *** H : Horizontal polarization , ** V : Vertical polarization**
2. **Result = Reading + Antenna factor + Cable loss**
3. **Margin value = Limit - Result**
4. **The measurement was performed for the frequency range 30 MHz ~ 1 000 MHz according to the FCC Part 15.109(a) Class B.**
5. **Channel 3 was the worst case operation mode.**

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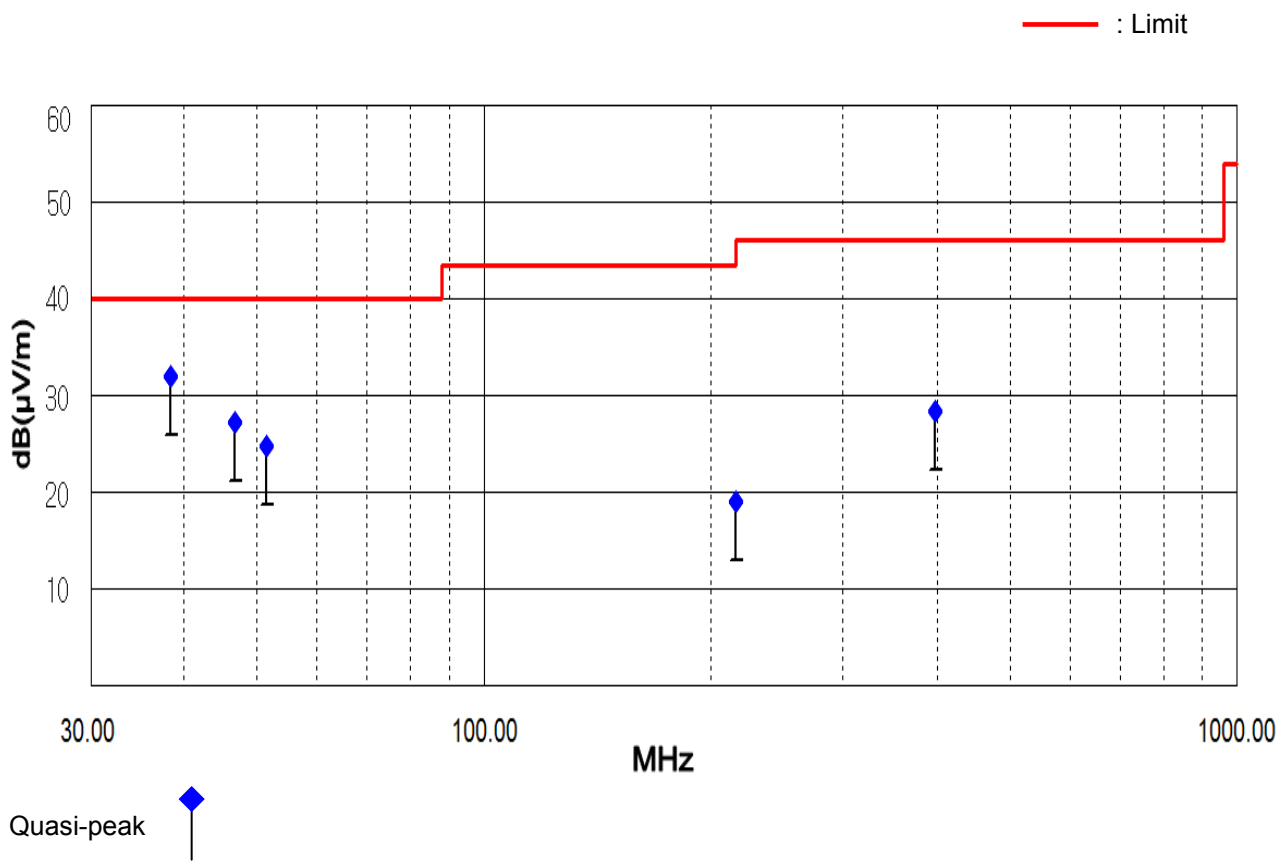

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- Below 1 GHz

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.109(a) Class B
Test Date	June 30, 2015
Environmental of Test	(30.6 ± 0.3) °C, (57 ± 1) % R.H., (99.5 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3)
Adapter type	Adapter #2
Result	Passed by 7.20 dB

Radiated Emission Test Data

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.
Detector mode: CISPR Quasi-Peak mode (6 dB Bandwidth: 120 kHz)

Frequency [MHz]	Reading [dB(μV)]	Polarization (*H/**V)	Ant. Factor [dB/m]	Cable Loss [dB(μV)]	Height [cm]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
38.37	19.41	V	12.58	0.81	100	32.80	40.00	7.20
41.32	14.15	V	12.91	0.84	100	27.90	40.00	12.10
53.48	9.73	V	12.93	0.94	100	23.60	40.00	16.40

NOTES:

1. *** H : Horizontal polarization , ** V : Vertical polarization**
2. **Result = Reading + Antenna factor + Cable loss**
3. **Margin value = Limit - Result**
4. **The measurement was performed for the frequency range 30 MHz ~ 1 000 MHz according to the FCC Part 15.109(a) Class B.**
5. **Channel 3 was the worst case operation mode.**

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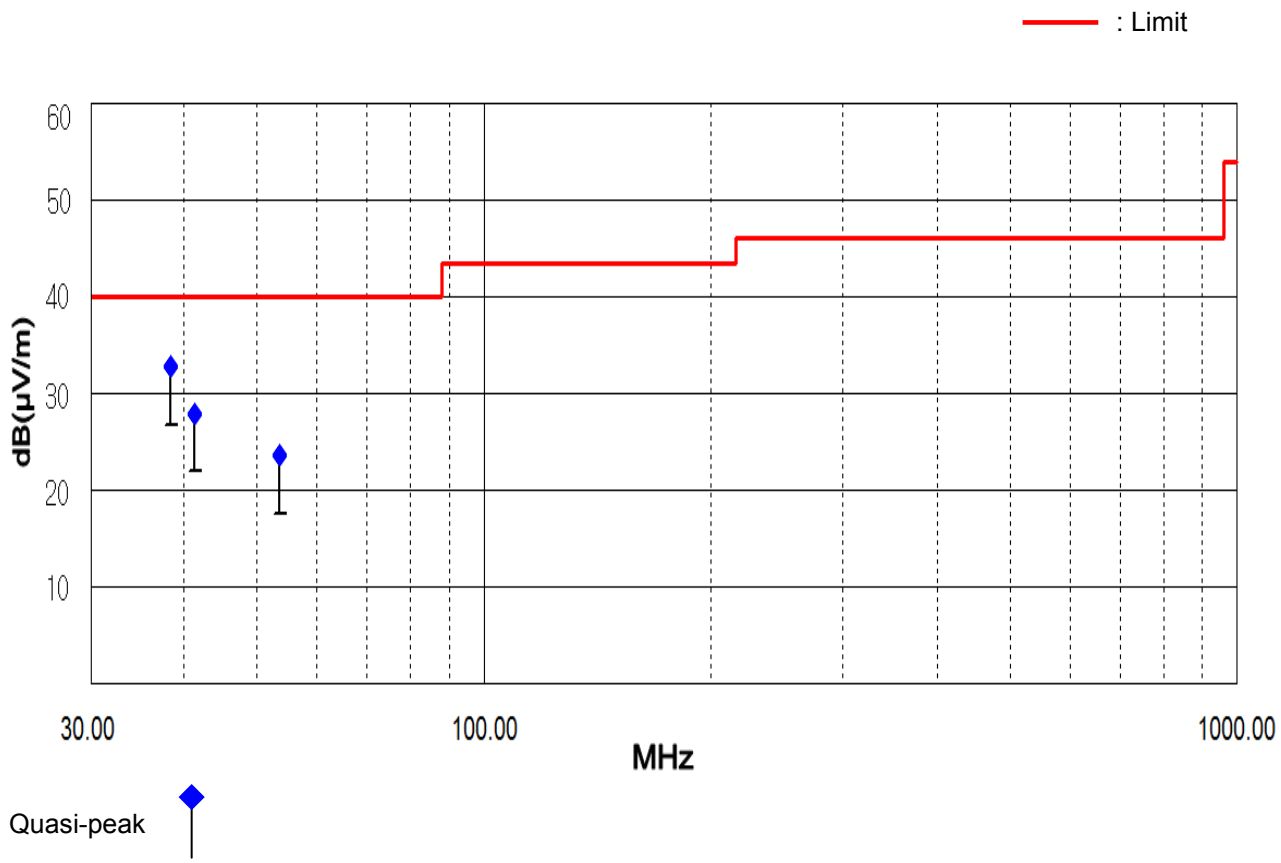

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- Below 1 GHz

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.109(a) Class B
Test Date	June 30, 2015
Environmental of Test	(31.5 ± 0.2) °C, (59 ± 2) % R.H., (99.4 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3)
Adapter type	Adapter #3
Result	Passed by 8.40 dB

Radiated Emission Test Data

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.
Detector mode: CISPR Quasi-Peak mode (6 dB Bandwidth: 120 kHz)

Frequency [MHz]	Reading [dB(μV)]	Polarization (*H/**V)	Ant. Factor [dB/m]	Cable Loss [dB(μV)]	Height [cm]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
39.17	18.08	V	12.70	0.82	100	31.60	40.00	8.40
40.64	14.10	V	12.87	0.83	100	27.80	40.00	12.20
54.73	7.52	V	12.82	0.96	100	21.30	40.00	18.70
123.56	11.10	V	10.42	1.48	112	23.00	43.50	20.50
139.42	10.05	V	12.36	1.59	123	24.00	43.50	19.50

NOTES:

1. *** H : Horizontal polarization , ** V : Vertical polarization**
2. **Result = Reading + Antenna factor + Cable loss**
3. **Margin value = Limit - Result**
4. **The measurement was performed for the frequency range 30 MHz ~ 1 000 MHz according to the FCC Part 15.109(a) Class B.**
5. **Channel 3 was the worst case operation mode.**

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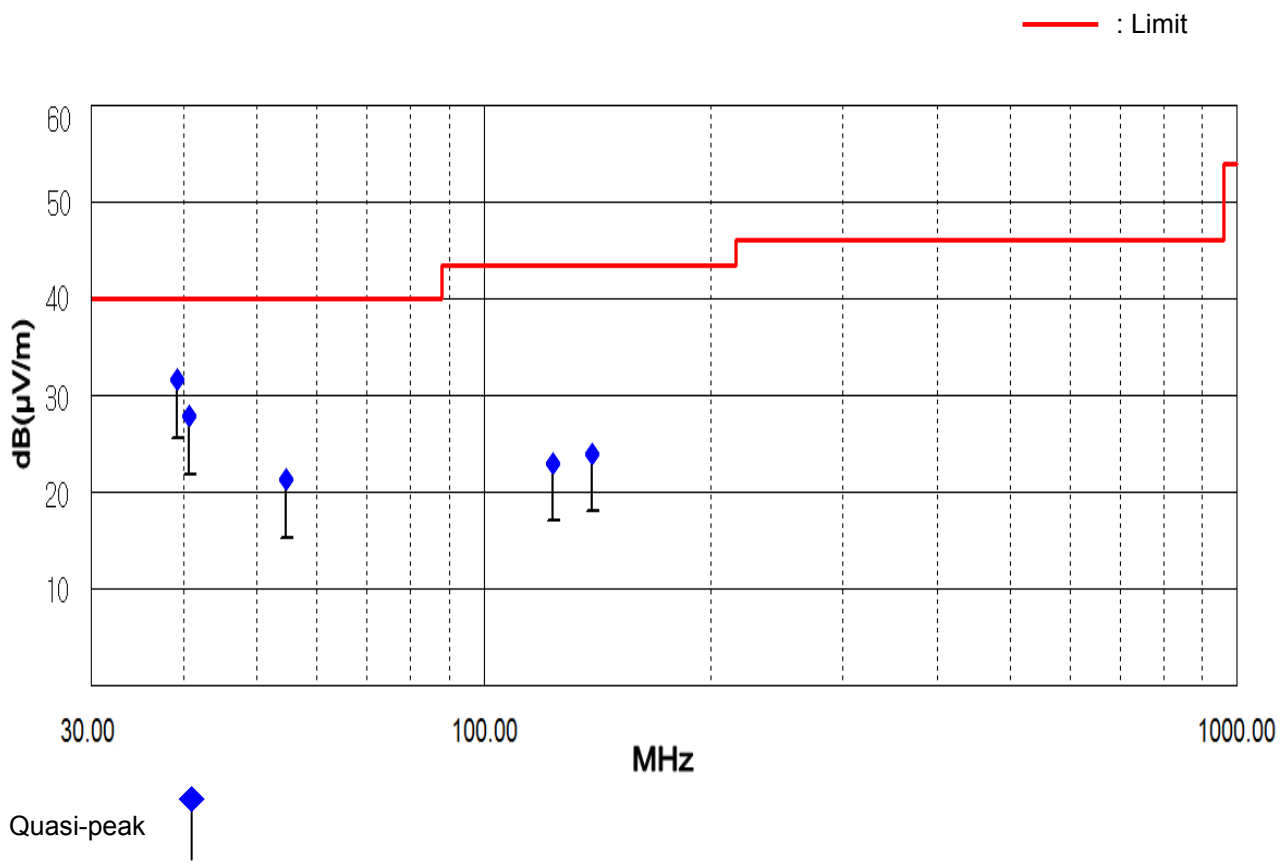

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- Below 1 GHz

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.109(a) Class B
Test Date	June 30, 2015
Environmental of Test	(32.9 ± 1.8) °C, (55 ± 2) % R.H., (99.4 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3)
Adapter type	Adapter #4
Result	Passed by 9.00 dB

Radiated Emission Test Data

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.
Detector mode: CISPR Quasi-Peak mode (6 dB Bandwidth: 120 kHz)

Frequency [MHz]	Reading [dB(μV)]	Polarization (*H/**V)	Ant. Factor [dB/m]	Cable Loss [dB(μV)]	Height [cm]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
39.17	17.48	V	12.70	0.82	100	31.00	40.00	9.00
45.24	12.80	V	13.15	0.85	100	26.80	40.00	13.20
50.62	10.42	V	13.18	0.90	100	24.50	40.00	15.50

NOTES:

1. *** H : Horizontal polarization , ** V : Vertical polarization**
2. **Result = Reading + Antenna factor + Cable loss**
3. **Margin value = Limit - Result**
4. **The measurement was performed for the frequency range 30 MHz ~ 1 000 MHz according to the FCC Part 15.109(a) Class B.**
5. **Channel 3 was the worst case operation mode.**

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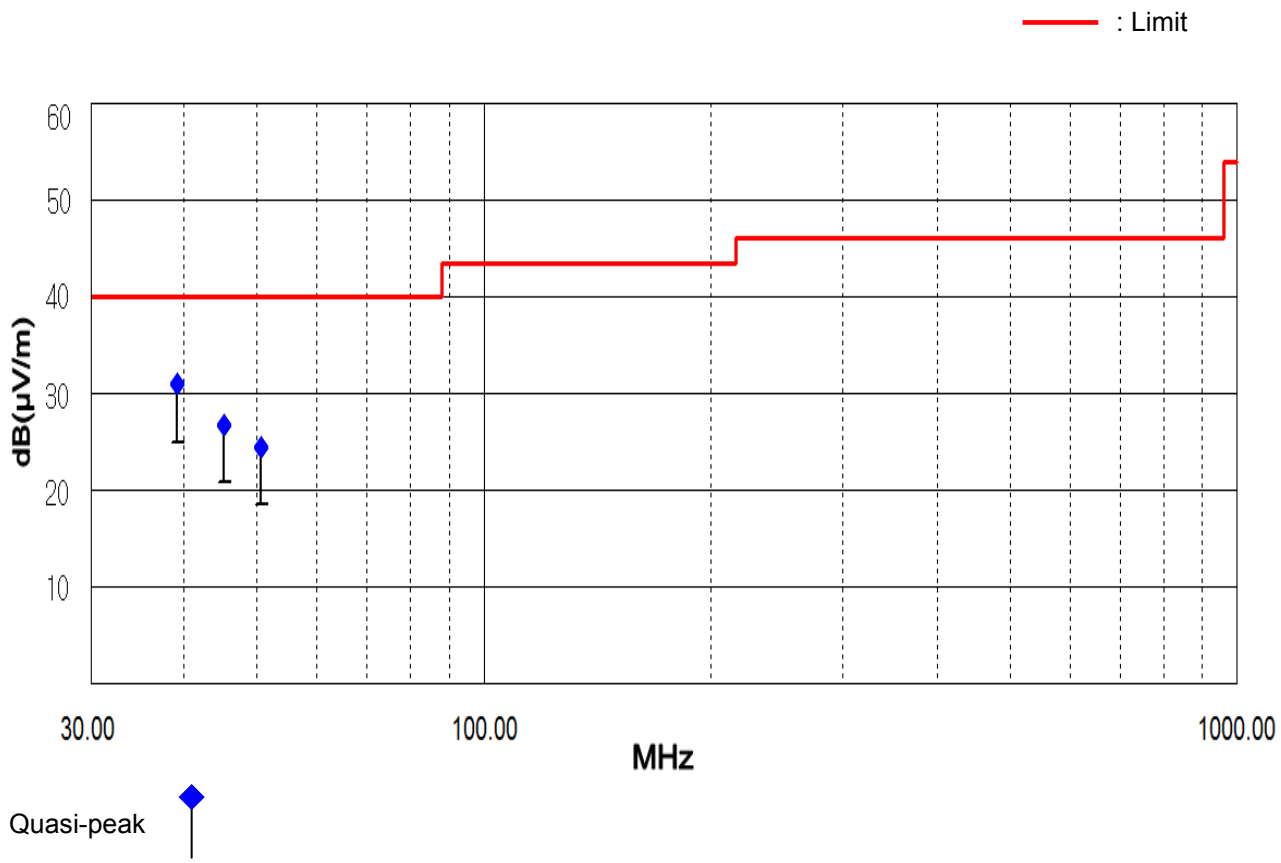

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- Above 1 GHz

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.109(a) Class B
Test Date	June 29, 2015
Environmental of Test	(20.2 ± 0.0) °C, (40 ± 0) % R.H., (101.4 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3)
Adapter type	Adapter #1
Result	Passed by 19.70 dB

Radiated Emission Test Data

The following data and graph shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.
Detector mode: CISPR Peak mode, Average mode

NOTES:

1. **Please see the measured data and graph in next page.**
2. **H : Horizontal polarization , V : Vertical polarization**
3. **The c.f value was included the antenna factor, cable loss and Amp. Gain.**
4. **Result value = Reading + c.f**
5. **Margin value = Limit - Result**
6. **The measurement was performed for the frequency range 1 GHz ~ 6 GHz according to FCC Part 15.109(a) Class B.**
7. **Upper frequency of measurement range: 5th harmonic of the highest frequency.**
8. **Channel 3 was the worst case operation mode.**

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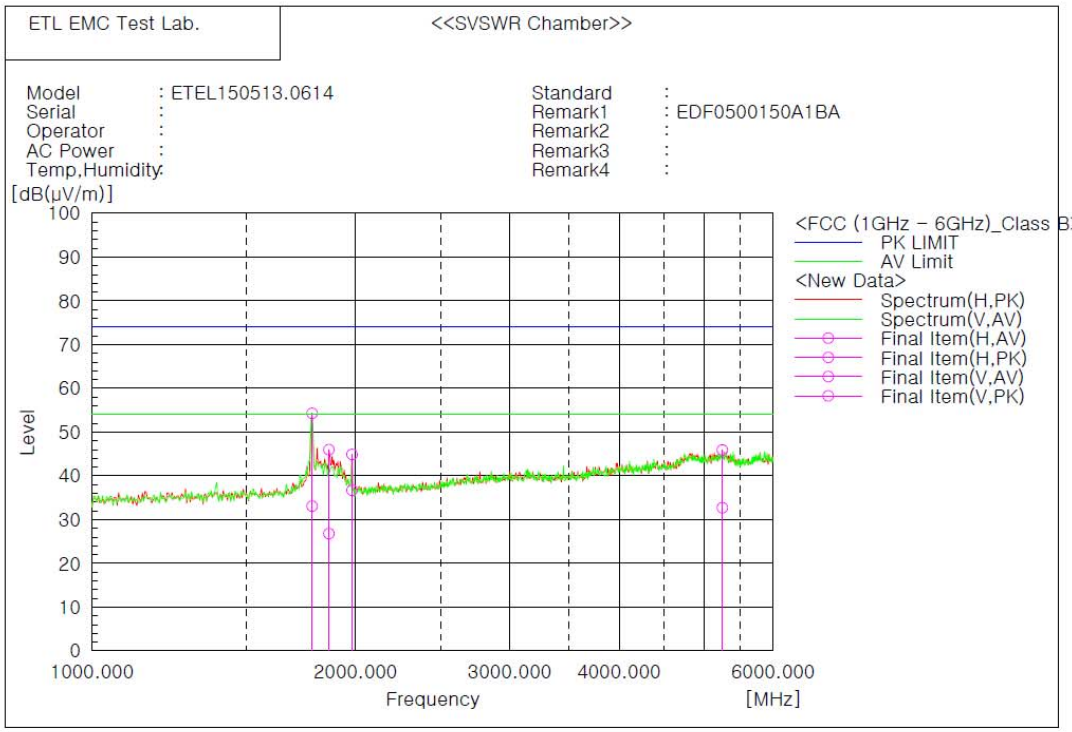

Final Result

--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
1	1864.560	39.3	-12.5	26.8	74.0	47.2
2	5248.260	33.5	-0.8	32.7	74.0	41.3

--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
1	1864.560	58.5	-12.5	46.0	74.0	28.0
2	5248.260	46.7	-0.8	45.9	74.0	28.1

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
1	1783.760	45.8	-12.7	33.1	74.0	40.9
2	1981.720	48.8	-12.1	36.7	74.0	37.3

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
1	1783.760	67.0	-12.7	54.3	74.0	19.7
2	1981.720	57.0	-12.1	44.9	74.0	29.1

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- Above 1 GHz

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.109(a) Class B
Test Date	June 29, 2015
Environmental of Test	(20.3 ± 0.0) °C, (40 ± 0) % R.H., (101.4 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3)
Adapter type	Adapter #2
Result	Passed by 19.00 dB

Radiated Emission Test Data

The following data and graph shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.
Detector mode: CISPR Peak mode, Average mode

NOTES:

1. **Please see the measured data and graph in next page.**
2. **H : Horizontal polarization , V : Vertical polarization**
3. **The c.f value was included the antenna factor, cable loss and Amp. Gain.**
4. **Result value = Reading + c.f**
5. **Margin value = Limit - Result**
6. **The measurement was performed for the frequency range 1 GHz ~ 6 GHz according to FCC Part 15.109(a) Class B.**
7. **Upper frequency of measurement range: 5th harmonic of the highest frequency.**
8. **Channel 3 was the worst case operation mode.**

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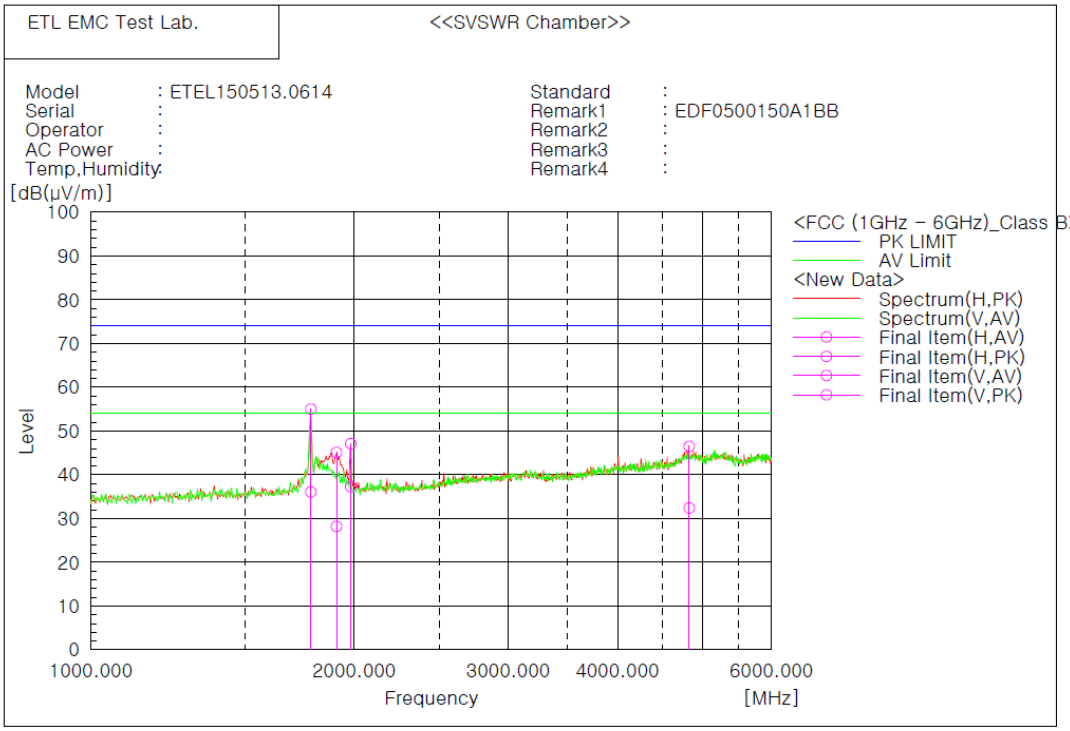

Final Result

--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
1	1981.720	49.4	-12.1	37.3	74.0	36.7
2	1909.000	40.5	-12.3	28.2	74.0	45.8

--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
1	1981.720	59.2	-12.1	47.1	74.0	26.9
2	1909.000	57.4	-12.3	45.1	74.0	28.9

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
1	1783.760	48.8	-12.7	36.1	74.0	37.9
2	4830.120	33.5	-1.1	32.4	74.0	41.6

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
1	1783.760	67.7	-12.7	55.0	74.0	19.0
2	4830.120	47.6	-1.1	46.5	74.0	27.5

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- Above 1 GHz

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.109(a) Class B
Test Date	June 29, 2015
Environmental of Test	(20.5 ± 0.0) °C, (39 ± 0) % R.H., (101.4 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3)
Adapter type	Adapter #3
Result	Passed by 19.30 dB

Radiated Emission Test Data

The following data and graph shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.
Detector mode: CISPR Peak mode, Average mode

NOTES:

1. **Please see the measured data and graph in next page.**
2. **H : Horizontal polarization , V : Vertical polarization**
3. **The c.f value was included the antenna factor, cable loss and Amp. Gain.**
4. **Result value = Reading + c.f**
5. **Margin value = Limit - Result**
6. **The measurement was performed for the frequency range 1 GHz ~ 6 GHz according to FCC Part 15.109(a) Class B.**
7. **Upper frequency of measurement range: 5th harmonic of the highest frequency.**
8. **Channel 3 was the worst case operation mode.**

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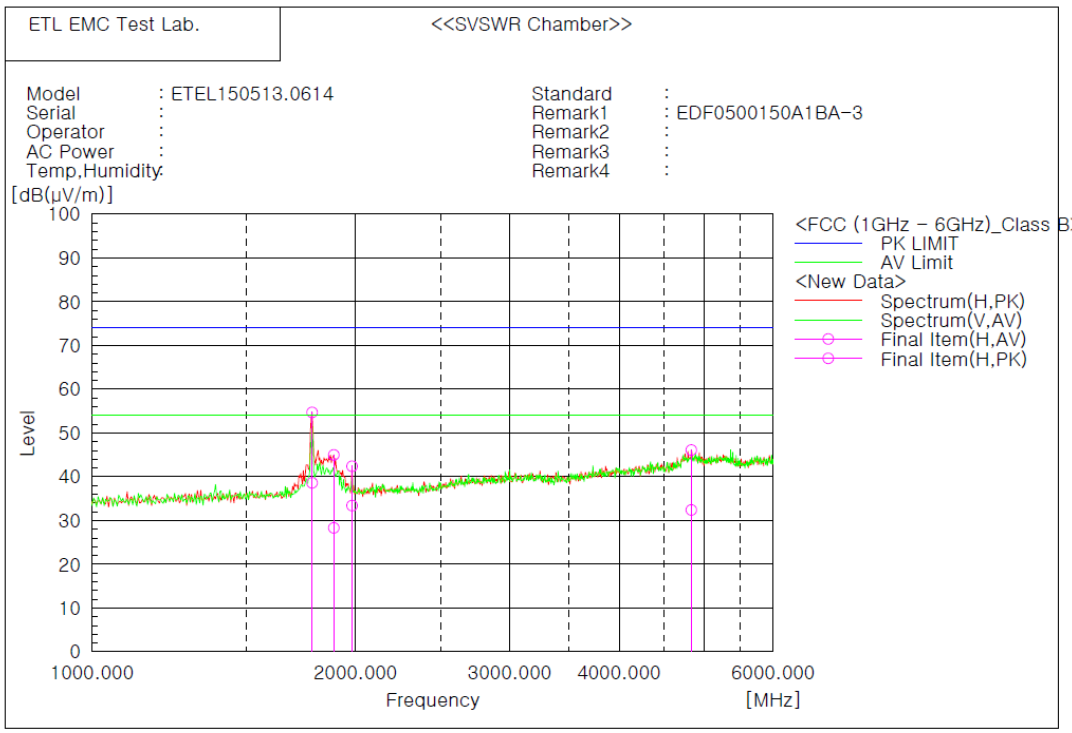

Final Result

--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
1	1783.760	51.3	-12.7	38.6	74.0	35.4
2	1888.800	40.7	-12.4	28.3	74.0	45.7
3	1981.720	45.5	-12.1	33.4	74.0	40.6
4	4836.180	33.5	-1.1	32.4	74.0	41.6

--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
1	1783.760	67.4	-12.7	54.7	74.0	19.3
2	1888.800	57.4	-12.4	45.0	74.0	29.0
3	1981.720	54.5	-12.1	42.4	74.0	31.6
4	4836.180	47.2	-1.1	46.1	74.0	27.9

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- Above 1 GHz

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.109(a) Class B
Test Date	June 29, 2015
Environmental of Test	(20.6 ± 0.0) °C, (39 ± 0) % R.H., (101.4 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3)
Adapter type	Adapter #4
Result	Passed by 19.10 dB

Radiated Emission Test Data

The following data and graph shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.
Detector mode: CISPR Peak mode, Average mode

NOTES:

1. **Please see the measured data and graph in next page.**
2. **H : Horizontal polarization , V : Vertical polarization**
3. **The c.f value was included the antenna factor, cable loss and Amp. Gain.**
4. **Result value = Reading + c.f**
5. **Margin value = Limit - Result**
6. **The measurement was performed for the frequency range 1 GHz ~ 6 GHz according to FCC Part 15.109(a) Class B.**
7. **Upper frequency of measurement range: 5th harmonic of the highest frequency.**
8. **Channel 3 was the worst case operation mode.**

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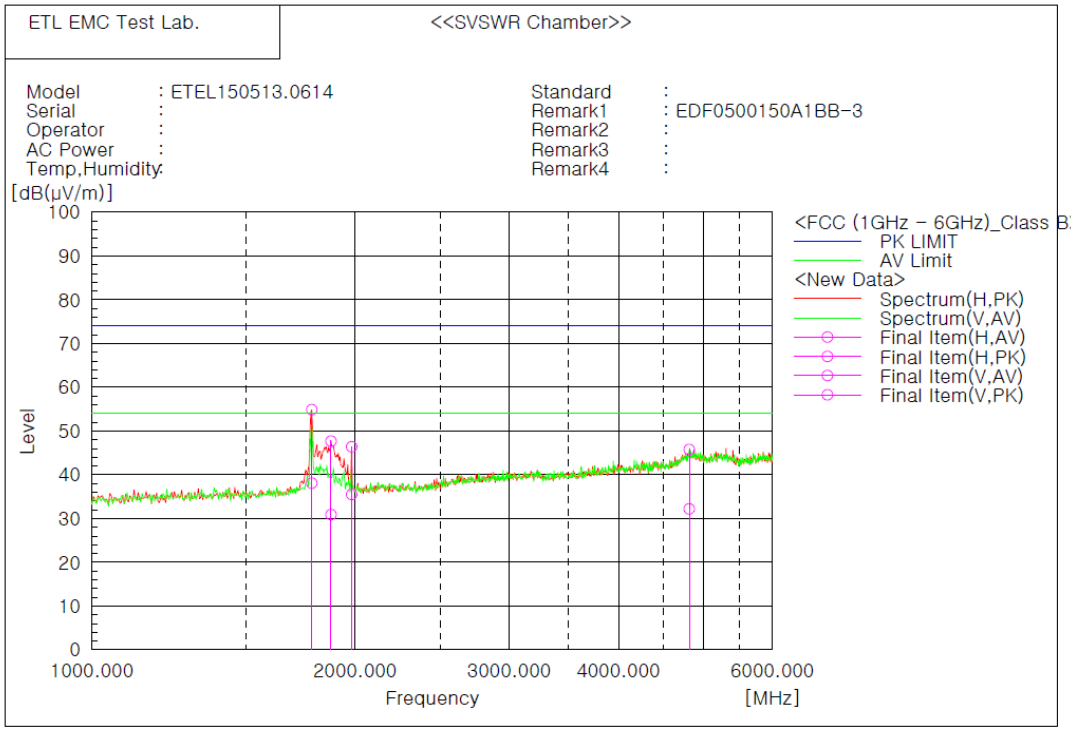

Final Result

--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
1	1783.760	50.8	-12.7	38.1	74.0	35.9
2	1876.680	43.3	-12.4	30.9	74.0	43.1
3	1981.720	47.6	-12.1	35.5	74.0	38.5

--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
1	1783.760	67.6	-12.7	54.9	74.0	19.1
2	1876.680	60.1	-12.4	47.7	74.0	26.3
3	1981.720	58.5	-12.1	46.4	74.0	27.6

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
1	4818.000	33.4	-1.2	32.2	74.0	41.8

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
1	4818.000	47.0	-1.2	45.8	74.0	28.2

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5.4 Antenna Power Conduction Measurement

5.4.1 Antenna Power Conduction Measurement

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.111(a)
Test Date	July 01, 2015
Environmental of Test	(19.8 ± 0.0) °C, (40 ± 0) % R.H., (101.2 ± 0.0) kPa
Operating Condition	Signal tuning mode
Adapter type	Adapter #1
Result	Passed by 10.80 dB

Antenna Power Conduction Test Data

Test port	Tuned Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
CABLE IN	36.075	6.00	23.70	29.70	50.00	20.30
	110.325	3.20	23.70	26.90	50.00	23.10
	191.325	4.80	23.80	28.60	50.00	21.40
	868.750	3.60	24.10	27.70	50.00	22.30
	1 370.875	13.40	25.80	39.20	50.00	10.80

NOTES:

1. **Result = Meter Reading + Correction Factor (Matching Loss + Cable loss)**
2. **Margin value = Limit - Result**
3. **Measurements using the CISPR Quasi-peak mode in the frequency range 30 MHz to 6 GHz and measurements using the CISPR peak mode in the frequency range above 1 GHz.**
4. **The limits is 2.0 ㎽ in the frequency range section 15.33(b)(1) of FCC Part 15.**

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EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.111(a)
Test Date	July 01, 2015
Environmental of Test	(19.6 ± 0.0) °C, (40 ± 0) % R.H., (101.2 ± 0.0) kPa
Operating Condition	Signal tuning mode
Adapter type	Adapter #2
Result	Passed by 10.80 dB

Antenna Power Conduction Test Data

Test port	Tuned Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
CABLE IN	36.075	6.00	23.70	29.70	50.00	20.30
	110.325	3.20	23.70	26.90	50.00	23.10
	191.325	4.80	23.80	28.60	50.00	21.40
	868.750	3.60	24.10	27.70	50.00	22.30
	1 370.875	13.40	25.80	39.20	50.00	10.80

NOTES:

1. **Result = Meter Reading + Correction Factor (Matching Loss + Cable loss)**
2. **Margin value = Limit - Result**
3. **Measurements using the CISPR Quasi-peak mode in the frequency range 30 MHz to 6 GHz and measurements using the CISPR peak mode in the frequency range above 1 GHz.**
4. **The limits is 2.0 ㎽ in the frequency range section 15.33(b)(1) of FCC Part 15.**

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EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.111(a)
Test Date	July 01, 2015
Environmental of Test	(19.5 ± 0.0) °C, (40 ± 0) % R.H., (101.2 ± 0.0) kPa
Operating Condition	Signal tuning mode
Adapter type	Adapter #3
Result	Passed by 10.90 dB

Antenna Power Conduction Test Data

Test port	Tuned Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
CABLE IN	34.725	2.70	23.70	26.40	50.00	23.60
	48.225	2.10	23.70	25.80	50.00	24.20
	144.750	3.60	23.80	27.40	50.00	22.60
	550.250	3.70	23.70	27.40	50.00	22.60
	1 345.000	13.00	26.10	39.10	50.00	10.90

NOTES:

1. **Result = Meter Reading + Correction Factor (Matching Loss + Cable loss)**
2. **Margin value = Limit - Result**
3. **Measurements using the CISPR Quasi-peak mode in the frequency range 30 MHz to 6 GHz and measurements using the CISPR peak mode in the frequency range above 1 GHz.**
4. **The limits is 2.0 ㎽ in the frequency range section 15.33(b)(1) of FCC Part 15.**

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EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part 15 Subpart B Section 15.111(a)
Test Date	July 01, 2015
Environmental of Test	(19.3 ± 0.0) °C, (41 ± 0) % R.H., (101.2 ± 0.0) kPa
Operating Condition	Signal tuning mode
Adapter type	Adapter #4
Result	Passed by 11.70 dB

Antenna Power Conduction Test Data

Test port	Tuned Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
CABLE IN	34.050	2.40	23.70	26.10	50.00	23.90
	45.525	2.20	23.70	25.90	50.00	24.10
	61.050	2.10	23.70	25.80	50.00	24.20
	176.475	5.10	23.80	28.90	50.00	21.10
	252.075	5.80	24.00	29.80	50.00	20.20
	1 278.875	12.40	25.90	38.30	50.00	11.70

NOTES:

1. **Result = Meter Reading + Correction Factor (Matching Loss + Cable loss)**
2. **Margin value = Limit - Result**
3. **Measurements using the CISPR Quasi-peak mode in the frequency range 30 MHz to 6 GHz and measurements using the CISPR peak mode in the frequency range above 1 GHz.**
4. **The limits is 2.0 ㎽ in the frequency range section 15.33(b)(1) of FCC Part 15.**

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5.5 Output Signal Level Measurement

5.5.1 Output Signal Level Measurement

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part15 Subpart B Section 15.115(b)(1)(i)
Test Date	July 01, 2015
Environmental of Test	(21.2 ± 0.0) °C, (39 ± 0) % R.H., (101.3 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3, Channel 4)
Adapter type	Adapter #1
Result	Passed by 2.20 dB

Output Signal Level Test Data

Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Signal Level [dB(μV)]	Limit [dB(μV)]	Margin [dB]
3	61.250	65.80	7.50	73.30	75.50	2.20
	65.750	50.95	7.50	58.45	62.50	4.05
4	67.250	65.38	7.50	72.88	75.50	2.62
	71.750	50.54	7.50	58.04	62.50	4.46

NOTES:

1. **The correction factor consist of the insertion loss of the impedance matching transformer and the coaxial receiver used for the test.**
2. **The spectrum was checked in each test mode and operation mode, and the maximum measured data were reported.**
3. **Signal Level = Meter Reading + Correction Factor (Matching Loss + Cable loss)**
4. **Margin value = Limit - Signal Level**

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EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part15 Subpart B Section 15.115(b)(1)(i)
Test Date	July 01, 2015
Environmental of Test	(21.3 ± 0.0) °C, (39 ± 0) % R.H., (101.3 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3, Channel 4)
Adapter type	Adapter #2
Result	Passed by 2.20 dB

Output Signal Level Test Data

Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Signal Level [dB(μV)]	Limit [dB(μV)]	Margin [dB]
3	61.250	65.80	7.50	73.30	75.50	2.20
	65.750	50.93	7.50	58.43	62.50	4.07
4	67.250	65.37	7.50	72.87	75.50	2.63
	71.750	50.51	7.50	58.01	62.50	4.49

NOTES:

1. **The correction factor consist of the insertion loss of the impedance matching transformer and the coaxial receiver used for the test.**
2. **The spectrum was checked in each test mode and operation mode, and the maximum measured data were reported.**
3. **Signal Level = Meter Reading + Correction Factor (Matching Loss + Cable loss)**
4. **Margin value = Limit - Signal Level**

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Open site: #499-1, Sagot-ri, Seosin-myeon, Hwaseong-si, Gyeonggi-do, 445-882, Korea

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part15 Subpart B Section 15.115(b)(1)(i)
Test Date	July 01, 2015
Environmental of Test	(21.6 ± 0.0) °C, (38 ± 0) % R.H., (101.2 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3, Channel 4)
Adapter type	Adapter #3
Result	Passed by 2.19 dB

Output Signal Level Test Data

Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Signal Level [dB(μV)]	Limit [dB(μV)]	Margin [dB]
3	61.250	65.81	7.50	73.31	75.50	2.19
	65.750	50.93	7.50	58.43	62.50	4.07
4	67.250	65.37	7.50	72.87	75.50	2.63
	71.750	50.51	7.50	58.01	62.50	4.49

NOTES:

1. **The correction factor consist of the insertion loss of the impedance matching transformer and the coaxial receiver used for the test.**
2. **The spectrum was checked in each test mode and operation mode, and the maximum measured data were reported.**
3. **Signal Level = Meter Reading + Correction Factor (Matching Loss + Cable loss)**
4. **Margin value = Limit - Signal Level**

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EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part15 Subpart B Section 15.115(b)(1)(i)
Test Date	July 01, 2015
Environmental of Test	(21.5 ± 0.0) °C, (38 ± 0) % R.H., (101.2 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3, Channel 4)
Adapter type	Adapter #4
Result	Passed by 2.20 dB

Output Signal Level Test Data

Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Signal Level [dB(μV)]	Limit [dB(μV)]	Margin [dB]
3	61.250	65.80	7.50	73.30	75.50	2.20
	65.750	50.94	7.50	58.44	62.50	4.06
4	67.250	65.37	7.50	72.87	75.50	2.63
	71.750	50.52	7.50	58.02	62.50	4.48

NOTES:

1. **The correction factor consist of the insertion loss of the impedance matching transformer and the coaxial receiver used for the test.**
2. **The spectrum was checked in each test mode and operation mode, and the maximum measured data were reported.**
3. **Signal Level = Meter Reading + Correction Factor (Matching Loss + Cable loss)**
4. **Margin value = Limit - Signal Level**

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5.6 Output Terminal Conducted Spurious Emission Measurement

5.6.1 Output Terminal Conducted Spurious Emission Measurement

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part15 Subpart B Section 15.115(b)(2)(i)
Test Date	July 01, 2015
Environmental of Test	(21.3 ± 0.0) °C, (38 ± 0) % R.H., (100.9 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3, Channel 4)
Adapter type	Adapter #1
Result	Passed by 2.20 dB

Output Terminal Conducted Spurious Test Data

Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
3	57.000	50.90	7.50	58.40	75.50	17.10
	61.050	65.80	7.50	73.30	75.50	2.20
	65.775	50.90	7.50	58.40	75.50	17.10
	108.300	15.20	7.50	22.70	75.50	52.80
	122.475	20.50	7.50	28.00	75.50	47.50
	179.175	22.00	7.50	29.50	75.50	46.00
	183.900	33.60	7.50	41.10	75.50	34.40
	187.950	20.90	7.50	28.40	75.50	47.10
	307.000	16.30	7.50	23.80	75.50	51.70

NOTES:

1. **The correction factor consists of the insertion loss of the impedance matching transformer.**
2. **The spectrum was checked in each test mode and operation mode, and the maximum measured data were reported.**
3. **Result = Meter Reading + Correction (Matching Loss+ Cable loss)**
4. **Margin value = Limit - Signal Level**

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Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
4	63.075	50.70	7.50	58.20	75.50	17.30
	67.125	64.20	7.50	71.70	75.50	3.80
	71.850	50.50	7.50	58.00	75.50	17.50
	108.300	15.70	7.50	23.20	75.50	52.30
	129.900	25.50	7.50	33.00	75.50	42.50
	134.625	36.40	7.50	43.90	75.50	31.60
	138.675	23.40	7.50	30.90	75.50	44.60
	197.400	17.90	7.50	25.40	75.50	50.10
	201.450	28.40	7.50	35.90	75.50	39.60
	206.175	16.90	7.50	24.40	75.50	51.10
	268.950	19.20	7.50	26.70	75.50	48.80

NOTES:

1. **The correction factor consists of the insertion loss of the impedance matching transformer.**
2. **The spectrum was checked in each test mode and operation mode, and the maximum measured data were reported.**
3. **Result = Meter Reading + Correction (Matching Loss+ Cable loss)**
4. **Margin value = Limit - Signal Level**

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EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part15 Subpart B Section 15.115(b)(2)(i)
Test Date	July 01, 2015
Environmental of Test	(21.4 ± 0.0) °C, (38 ± 0) % R.H., (100.9 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3, Channel 4)
Adapter type	Adapter #2
Result	Passed by 3.20 dB

Output Terminal Conducted Spurious Test Data

Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
3	57.000	50.90	7.50	58.40	75.50	17.10
	61.050	64.80	7.50	72.30	75.50	3.20
	65.775	50.90	7.50	58.40	75.50	17.10
	108.300	15.80	7.50	23.30	75.50	52.20
	122.475	20.70	7.50	28.20	75.50	47.30
	179.175	21.80	7.50	29.30	75.50	46.20
	183.900	33.60	7.50	41.10	75.50	34.40
	187.950	20.30	7.50	27.80	75.50	47.70
	307.000	16.30	7.50	23.80	75.50	51.70

NOTES:

1. **The correction factor consists of the insertion loss of the impedance matching transformer.**
2. **The spectrum was checked in each test mode and operation mode, and the maximum measured data were reported.**
3. **Result = Meter Reading + Correction (Matching Loss+ Cable loss)**
4. **Margin value = Limit - Signal Level**

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Open site: #499-1, Sagot-ri, Seosin-myeon, Hwaseong-si, Gyeonggi-do, 445-882, Korea

Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
4	63.075	50.60	7.50	58.10	75.50	17.40
	67.125	64.80	7.50	72.30	75.50	3.20
	71.850	50.50	7.50	58.00	75.50	17.50
	108.300	15.80	7.50	23.30	75.50	52.20
	129.900	25.60	7.50	33.10	75.50	42.40
	134.625	36.60	7.50	44.10	75.50	31.40
	139.350	23.50	7.50	31.00	75.50	44.50
	197.400	17.80	7.50	25.30	75.50	50.20
	201.450	28.20	7.50	35.70	75.50	39.80
	206.175	16.60	7.50	24.10	75.50	51.40
	268.950	19.20	7.50	26.70	75.50	48.80

NOTES:

1. **The correction factor consists of the insertion loss of the impedance matching transformer.**
2. **The spectrum was checked in each test mode and operation mode, and the maximum measured data were reported.**
3. **Result = Meter Reading + Correction (Matching Loss+ Cable loss)**
4. **Margin value = Limit - Signal Level**

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EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part15 Subpart B Section 15.115(b)(2)(i)
Test Date	July 01, 2015
Environmental of Test	(21.5 ± 0.0) °C, (38 ± 0) % R.H., (100.9 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3, Channel 4)
Adapter type	Adapter #3
Result	Passed by 2.70 dB

Output Terminal Conducted Spurious Test Data

Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
3	57.000	50.90	7.50	58.40	75.50	17.10
	61.050	65.30	7.50	72.80	75.50	2.70
	65.775	50.90	7.50	58.40	75.50	17.10
	108.300	15.50	7.50	23.00	75.50	52.50
	122.475	20.70	7.50	28.20	75.50	47.30
	179.175	21.80	7.50	29.30	75.50	46.20
	183.900	33.00	7.50	40.50	75.50	35.00
	187.950	20.40	7.50	27.90	75.50	47.60
	307.000	17.40	7.50	24.90	75.50	50.60

NOTES:

1. **The correction factor consists of the insertion loss of the impedance matching transformer.**
2. **The spectrum was checked in each test mode and operation mode, and the maximum measured data were reported.**
3. **Result = Meter Reading + Correction (Matching Loss+ Cable loss)**
4. **Margin value = Limit - Signal Level**

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Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
4	63.075	50.70	7.50	58.20	75.50	17.30
	67.125	64.60	7.50	72.10	75.50	3.40
	71.850	50.50	7.50	58.00	75.50	17.50
	108.300	16.00	7.50	23.50	75.50	52.00
	129.900	25.60	7.50	33.10	75.50	42.40
	134.625	37.50	7.50	45.00	75.50	30.50
	139.350	23.70	7.50	31.20	75.50	44.30
	197.400	17.70	7.50	25.20	75.50	50.30
	201.450	29.00	7.50	36.50	75.50	39.00
	206.175	16.90	7.50	24.40	75.50	51.10
	268.950	19.20	7.50	26.70	75.50	48.80

NOTES:

1. **The correction factor consists of the insertion loss of the impedance matching transformer.**
2. **The spectrum was checked in each test mode and operation mode, and the maximum measured data were reported.**
3. **Result = Meter Reading + Correction (Matching Loss+ Cable loss)**
4. **Margin value = Limit - Signal Level**

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EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part15 Subpart B Section 15.115(b)(2)(i)
Test Date	July 01, 2015
Environmental of Test	(21.9 ± 0.0) °C, (37 ± 0) % R.H., (100.8 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3, Channel 4)
Adapter type	Adapter #4
Result	Passed by 3.30 dB

Output Terminal Conducted Spurious Test Data

Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
3	57.000	50.90	7.50	58.40	75.50	17.10
	61.050	64.70	7.50	72.20	75.50	3.30
	65.775	50.90	7.50	58.40	75.50	17.10
	108.300	15.60	7.50	23.10	75.50	52.40
	122.475	20.70	7.50	28.20	75.50	47.30
	179.175	21.90	7.50	29.40	75.50	46.10
	183.900	33.70	7.50	41.20	75.50	34.30
	187.950	20.20	7.50	27.70	75.50	47.80
	307.000	17.00	7.50	24.50	75.50	51.00

NOTES:

1. **The correction factor consists of the insertion loss of the impedance matching transformer.**
2. **The spectrum was checked in each test mode and operation mode, and the maximum measured data were reported.**
3. **Result = Meter Reading + Correction (Matching Loss+ Cable loss)**
4. **Margin value = Limit - Signal Level**

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Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
4	63.075	50.60	7.50	58.10	75.50	17.40
	67.125	64.20	7.50	71.70	75.50	3.80
	71.850	50.40	7.50	57.90	75.50	17.60
	108.300	15.60	7.50	23.10	75.50	52.40
	129.900	25.40	7.50	32.90	75.50	42.60
	134.625	37.20	7.50	44.70	75.50	30.80
	139.350	23.60	7.50	31.10	75.50	44.40
	197.400	17.50	7.50	25.00	75.50	50.50
	201.450	28.60	7.50	36.10	75.50	39.40
	206.175	16.20	7.50	23.70	75.50	51.80
	268.950	19.00	7.50	26.50	75.50	49.00

NOTES:

1. **The correction factor consists of the insertion loss of the impedance matching transformer.**
2. **The spectrum was checked in each test mode and operation mode, and the maximum measured data were reported.**
3. **Result = Meter Reading + Correction (Matching Loss+ Cable loss)**
4. **Margin value = Limit - Signal Level**

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5.7 Antenna Transfer Switch Measurement

5.7.1 Antenna Transfer Switch Measurement

EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part15 Subpart B Section 15.115(c)(1)(ii)
Test Date	July 01, 2015
Environmental of Test	(19.3 ± 0.0) °C, (41 ± 0) % R.H., (101.1 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3, Channel 4)
Adapter type	Adapter #1
Result	Passed

Antenna Transfer Switch Test Data

Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
3	61.250	**During this test, no signal detected**				-
4	67.250					-

NOTES:

1. **No emission was observed during the test. The spectrum was checked in each test mode and operation mode Transfer switch isolation measurements were made on the Channel 3 or 4 video output frequency of 61.25 MHz or 67.25 MHz and both positions of the transfer switch were checked for compliance.**
2. **To clarify the emissions emanated from ANT. input terminal on the EUT, RF pre-amplifier was used. The gain of pre-amplifier at each frequency measured from the EUT was obtained after sufficient warm-up for stabilization of gain. The correction factor consists of the insertion loss of the impedance matching transformer, the coaxial Satellite Receiver used for the test and the gain of pre-amplifier.**
3. **Result = Meter Reading + Correction Factor (Matching Loss + Cable loss)**
4. **Margin value = Limit - Result**
5. **Spectrum analyzer setting: Frequency Span 1 MHz, Resolution bandwidth 100 kHz, Video bandwidth 300 kHz, Detector function Peak mode.**

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EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part15 Subpart B Section 15.115(c)(1)(ii)
Test Date	July 01, 2015
Environmental of Test	(19.4 ± 0.0) °C, (41 ± 0) % R.H., (101.1 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3, Channel 4)
Adapter type	Adapter #2
Result	Passed

Antenna Transfer Switch Test Data

Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
3	61.250	**During this test, no signal detected**				-
4	67.250					-

NOTES:

1. **No emission was observed during the test. The spectrum was checked in each test mode and operation mode Transfer switch isolation measurements were made on the Channel 3 or 4 video output frequency of 61.25 MHz or 67.25 MHz and both positions of the transfer switch were checked for compliance.**
2. **To clarify the emissions emanated from ANT. input terminal on the EUT, RF pre-amplifier was used. The gain of pre-amplifier at each frequency measured from the EUT was obtained after sufficient warm-up for stabilization of gain. The correction factor consists of the insertion loss of the impedance matching transformer, the coaxial Satellite Receiver used for the test and the gain of pre-amplifier.**
3. **Result = Meter Reading + Correction Factor (Matching Loss + Cable loss)**
4. **Margin value = Limit - Result**
5. **Spectrum analyzer setting: Frequency Span 1 MHz, Resolution bandwidth 100 kHz, Video bandwidth 300 kHz, Detector function Peak mode.**

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EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part15 Subpart B Section 15.115(c)(1)(ii)
Test Date	July 01, 2015
Environmental of Test	(19.6 ± 0.0) °C, (41 ± 0) % R.H., (101.1 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3, Channel 4)
Adapter type	Adapter #3
Result	Passed

Antenna Transfer Switch Test Data

Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
3	61.250	**During this test, no signal detected**				-
4	67.250					-

NOTES:

1. **No emission was observed during the test. The spectrum was checked in each test mode and operation mode Transfer switch isolation measurements were made on the Channel 3 or 4 video output frequency of 61.25 MHz or 67.25 MHz and both positions of the transfer switch were checked for compliance.**
2. **To clarify the emissions emanated from ANT. input terminal on the EUT, RF pre-amplifier was used. The gain of pre-amplifier at each frequency measured from the EUT was obtained after sufficient warm-up for stabilization of gain. The correction factor consists of the insertion loss of the impedance matching transformer, the coaxial Satellite Receiver used for the test and the gain of pre-amplifier.**
3. **Result = Meter Reading + Correction Factor (Matching Loss + Cable loss)**
4. **Margin value = Limit - Result**
5. **Spectrum analyzer setting: Frequency Span 1 MHz, Resolution bandwidth 100 kHz, Video bandwidth 300 kHz, Detector function Peak mode.**

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EUT	Set-top Box / DMS2444UHDW (S/N: EVY521W00217)
Limit apply to	FCC Part15 Subpart B Section 15.115(c)(1)(ii)
Test Date	July 01, 2015
Environmental of Test	(20.1 ± 0.0) °C, (40 ± 0) % R.H., (100.9 ± 0.0) kPa
Operating Condition	TV Mode (Channel 3, Channel 4)
Adapter type	Adapter #4
Result	Passed

Antenna Transfer Switch Test Data

Test Channel	Emission Frequency [MHz]	Meter Reading [dB(μV)]	Correction Factor [dB]	Result [dB(μV)]	Limit [dB(μV)]	Margin [dB]
3	61.250	**During this test, no signal detected**				-
4	67.250					-

NOTES:

1. **No emission was observed during the test. The spectrum was checked in each test mode and operation mode Transfer switch isolation measurements were made on the Channel 3 or 4 video output frequency of 61.25 MHz or 67.25 MHz and both positions of the transfer switch were checked for compliance.**
2. **To clarify the emissions emanated from ANT. input terminal on the EUT, RF pre-amplifier was used. The gain of pre-amplifier at each frequency measured from the EUT was obtained after sufficient warm-up for stabilization of gain. The correction factor consists of the insertion loss of the impedance matching transformer, the coaxial Satellite Receiver used for the test and the gain of pre-amplifier.**
3. **Result = Meter Reading + Correction Factor (Matching Loss + Cable loss)**
4. **Margin value = Limit - Result**
5. **Spectrum analyzer setting: Frequency Span 1 MHz, Resolution bandwidth 100 kHz, Video bandwidth 300 kHz, Detector function Peak mode.**

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6. SAMPLE CALCULATION

Sample Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor.
The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - PA

Where FS = Field Strength
RA = Receiver Amplitude
AF = Antenna Factor
CF = Cable Attenuation Factor
PA* = Preamplifier Factor

* PA is only be used for the measuring frequency above 1 GHz.

$dB(\mu V) = 20 \log_{10} (\mu V)$: Equation
$dB(\mu V) = dBm + 107$

Example : @ 38.37 MHz

Class B Limit = 40.00 dB(μV/m)

Reading = 19.41 dB(μV)

Antenna Factor + Cable Loss = 12.58 + 0.81 = 13.39 dB(μV/m)

Total = 32.80 dB(μV/m)

Margin = 40.00 – 32.80 = 7.20 dB

= 7.20 dB below Limit

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7. List of test equipments used for measurements

Test Equipment		Model	Mfg.	Serial No.	Cal. Date	Cal. Due Date
☒	EMI Test Receiver	ESVS 10	R&S	835165/001	15.03.17	16.03.17
☒	EMI Test Receiver	ESPI3	R&S	100478	14.09.03	15.09.03
☒	EMI Test Receiver	ESCS30	R&S	847793/005	15.03.17	16.03.17
☒	EMI Test Receiver	ESCI7	R&S	100851	14.09.03	15.09.03
☒	Two-Line V-Network	ENV216	R&S	958599/106	15.03.17	16.03.17
☒	LISN	3816-2	EMCO	1002	15.04.22	16.04.22
☒	Horn Antenna	BBHA 9120D	Schwarzbeck	826	14.04.02	16.04.02
☒	Amplifier	TK-PA18	TESTEK.	120020	14.09.04	15.09.04
☒	LogBicon Antenna	VULB9160	Schwarzbeck	3164	15.06.08	17.06.08
☒	Spectrum Analyzer	E7405A	H.P.	US41160290	14.09.19	15.09.19
☒	Matching Pad (RAM)	358.5414.02	R&S	101841	14.12.08	15.12.08
☒	75 Ω Directional Bridge	86207A	Agilent	3140A00678	14.09.04	15.09.04
☒	Turn-Table	DS1200-S	Innco Systems GmbH	2740311	N/A	N/A
☒	Turn-Table	TT 1.35 SI	SES	-	N/A	N/A
☒	Antenna Master	AM 4.5	SES	-	N/A	N/A

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