

FCC DoC TEST REPORT

REPORT NO.: FD990709E01

MODEL NO.: ARS63, ARS63-D, ARS63-SB, ARS63-S

RECEIVED: July 08, 2010

TESTED: July 22 to Aug. 09, 2010

ISSUED: Aug. 24, 2010

APPLICANT: Atheros Communications, Inc.

ADDRESS: 1700 Technology Drive, San Jose, CA 95110

ISSUED BY: Bureau Veritas Consumer Products Services (H.K.)

Ltd., Taoyuan Branch Hsin Chu Laboratory

LAB ADDRESS: No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen,

Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

TEST LOCATION (1): No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen,

Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

TEST LOCATION (2): No. 49, Ln. 206, Wende Rd., Shangshan Tsuen,

Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

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CERTIFICATION

PRODUCT: Low Power 1x1 802.11 a/b/g/n (SDIO) + BT Combo Card,

Low Power 1x1 802.11 a/b/g/n (SDIO) Card,

Low Power 1x1 802.11 b/g/n (SDIO) + BT Combo Card,

Low Power 1x1 802.11 b/g/n (SDIO) Card

BRAND NAME: Atheros

MODEL NO.: ARS63, ARS63-D, ARS63-SB, ARS63-S

TESTED: July 22 to Aug. 09, 2010

TEST SAMPLE: R&D SAMPLE

APPLICANT: Atheros Communications, Inc. **STANDARDS:** FCC Part 15, Subpart B, Class B

ANSI C63.4-2003

The above equipment (Model: ARS63) has been tested by Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, and was in compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

: Midoli Peng, Specialist) , DATE: Aug. 24, 2010 PREPARED BY

TECHNICAL ACCEPTANCE DATE: Aug. 24, 2010

(Hank Chung, Deputy Manager)

APPROVED BY **DATE:** Aug. 24, 2010

(May Chen, Deputy Manager)



2 SUMMARY OF TEST RESULTS

Standard	Test Type	Result	Remarks
FCC Part 15,	Conducted Test	PASS	Meets Class B Limit Minimum passing margin is -17.42 dB at 0.193 MHz
Subpart B, Class B	Radiated Test	PASS	Meets Class B Limit Minimum passing margin is -2.52 dB at 36.30 MHz

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Conducted emissions	2.45 dB
Radiated emissions (30MHz-1GHz)	3.76 dB
Radiated emissions (1GHz -18GHz)	2.19 dB
Radiated emissions (18GHz -40GHz)	2.55 dB



3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

	Low Power 1x1 802.11 a/b/g/n (SDIO) + BT Combo Card,				
PRODUCT	Low Power 1x1 802.11 a/b/g/n (SDIO) Card,				
RODUCI	Low Power 1x1 802.11 b/g/n (SDIO) + BT Combo Card,				
	Low Power 1x1 802.11 b/g/n (SDIO) Card				
MODEL NO.	ARS63, ARS63-D, ARS63-SB, ARS63-S				
POWER SUPPLY	DC 3.3V from host equipment				
POWER CORD	NA				
DATA CABLE	NA				
SUPPLIED	INA				
I/O PORTS	NA				
ASSOCIATED	NIA.				
DEVICES	NA				

NOTE:

1. The EUT has below model names which are identical to each other in all aspects except for the following table :

	Model No.	Description
Low Power 1x1 802.11 a/b/g/n (SDIO) + BT Combo Card	ARS63	abgn + BT
Low Power 1x1 802.11 a/b/g/n (SDIO) Card	ARS63-D	abgn
Low Power 1x1 802.11 b/g/n (SDIO) + BT Combo Card	ARS63-SB	bgn+ BT
Low Power 1x1 802.11 b/g/n (SDIO) Card	ARS63-S	bgn

From the above models, model: **ARS63** was selected as model for the test and its data was recorded in this report.

- 2. There are Bluetooth technology and WLAN technology used for the EUT.
- 3. The EUT incorporates CDD function with 802.11a, 802.11b, 802.11g and SISO function with 802.11n.
- 4. The EUT is 1 * 1 spatial SISO without beam forming function. The antenna configuration is one transmitter antenna and one receiver antenna, as there are 2 PIFA antennas..
- 5. The EUT complies with 802.11n standards and backwards compatible with 802. 11a, 802.11b, 802.11g products.



A D T
The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

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3.2 ANTENNA SPECIFICATIONS

There are two sets of antennas provided to this EUT, please refer to the following table:

Set 1:

No	Prond	Model	Antenna	Commenter	Antenn	na Gain (dBi)<	included cable	e loss>
No.	o. Brand Model Type Co	Connector	For 2.4GHz	For 5GHz (5.15~5.35)	For 5GHz (5.47~5.725)	For 5GHz (5.725~5.85)		
1&2	WNC	81-EBJ15.005	PIFA	IPEX	3.62	3.08	4.76	4.76

Cable Loss:

No	Drond	Model	Cable Loss(dB)					
No.	Brand	Model	For 2.4GHz	For 5GHz (5.15~5.35)	For 5GHz (5.47~5.725)	For 5GHz (5.725~5.85)	Length	
1&2	WNC	81-EBJ15.005	1.15	1.70	1.74	1.79	300mm	

Set 2:

No.	Drand	Model	Antenna	Commenter	Antenr	na Gain (dBi)<	included cable	e loss>
INO.		Туре	Connector	For 2.4GHz	For 5GHz (5.15~5.35)	For 5GHz (5.47~5.725)	For 5GHz (5.725~5.85)	
1&2	WNC	81.ED415.001	PIFA	IPEX	1.48	5.56	5.34	3.14

Cable Loss:

No.	Brand	Model		Cable L	.oss(dB)		Cable
INO.	Dianu	Model	For 2.4GHz	For 5GHz (5.15~5.35)	For 5GHz (5.47~5.725)	For 5GHz (5.725~5.85)	Length
1&2	WNC	81.ED415.001	0.96	1.29	1.36	1.38	300mm

All of antenna can be application for WLAN and Bluetooth.



3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

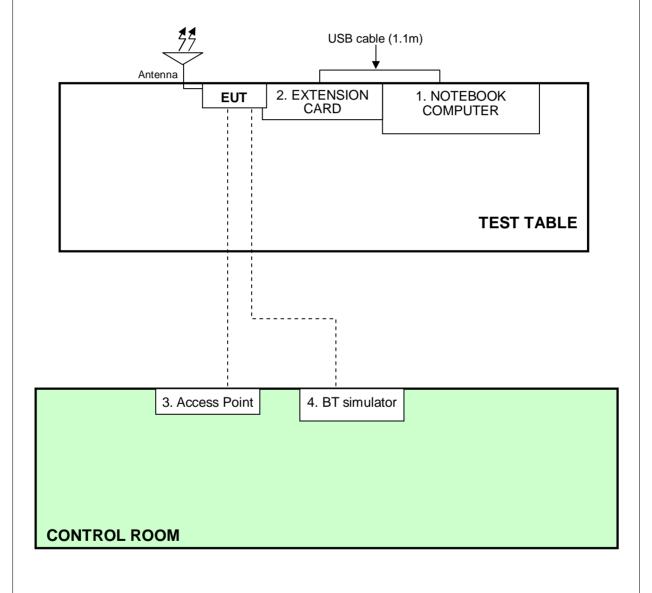
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP32LA	GSLB32S	FCC DoC
2	EXTENSION CARD	Atheros	NA	NA	NA
3	Access Point	Cisco	AIR-AP1252A G-A-K9	FTX121190XF	LDK102062
4	BT simulator	Agilent	N4010A	MY46320453	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA
3	NA
4	NA

NOTE: All power cords of the above support units are non shielded (1.8m).



3.4 CONFIGURATION OF SYSTEM UNDER TEST





4 EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

TEST STANDARD:

FCC Part 15, Subpart B (Section: 15.107)

FREQUENCY	Class A (dBuV)		Class B (dBuV)		
(MHz)	Quasi-peak	Average	Quasi-peak	Average	
0.15 - 0.5	79	66	66 - 56	56 - 46	
0.50 - 5.0	73	60	56	46	
5.0 - 30.0	73	60	60	50	

NOTE: (1) The lower limit shall apply at the transition frequencies.

- (2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz
- (3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver	ESCS 30	100375	Mar. 09, 2010	Mar. 08, 2011
Line-Impedance Stabilization Network (for EUT)	NSLK 8127	8127-522	Sep. 23, 2009	Sep. 22, 2010
Line-Impedance Stabilization Network (for Peripheral)	ESH3-Z5	848773/004	Oct. 26, 2009	Oct. 25, 2010
RF Cable (JYEBAO)	5DFB	COBCAB-001	Nov. 24, 2009	Nov. 23, 2010
50 ohms Terminator	50	3	Oct. 28, 2009	Oct. 27, 2010
Software	BV ADT_Cond_V7.3.7	NA	NA	NA

Note:

- 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
- 2. The test was performed in Shielded Room No. C.
- 3 The VCCI Con C Registration No. is C-3611.



4.1.3 TEST PROCEDURE

The basic test procedure was in accordance with ANSI C63.4-2003 (section 7)

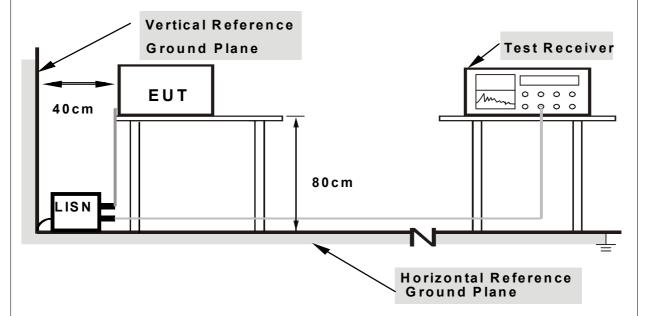
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

10dB under the prescribed limits could not be reported.
4.1.4 DEVIATION FROM TEST STANDARD
No deviation

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4.1.5 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

- 1. Connect the EUT with the support unit 1 (Notebook Computer) which is placed on a testing table.
- 2. Prepared other test systems support unit 3(Wireless access point) and support unit 4 (BT simulator) to act as communication partners and placed them outside of testing area.
- 3. The support unit 1 (Notebook Computer) ran test programs "Ping.exe" and "Bluetooth link" to enable EUT under transmission/receiving condition continuously via wireless transmission and Bluetooth transmission.



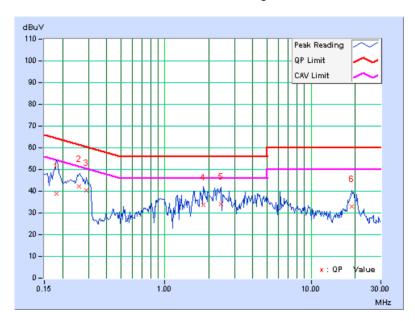
4.1.7 TEST RESULTS

TEST MODE	Mode 1	6dB BANDWIDTH	9kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	26deg. C, 78%RH, 1012hPa	TESTED BY	Eric Lee

	Freq.	Corr.	Readin	g Value		sion vel	Lin	nit	Mar	gin
No		Factor	[dB	(uV)]	[dB	(uV)]	[dB	(uV)]	(dl	B)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.181	0.05	38.88	-	38.93	-	64.43	54.43	-25.50	-
2	0.259	0.05	42.25	-	42.30	-	61.45	51.45	-19.15	-
3	0.291	0.05	40.38	-	40.43	-	60.51	50.51	-20.07	-
4	1.824	0.12	33.67	-	33.79	-	56.00	46.00	-22.21	-
5	2.410	0.14	34.07	-	34.21	-	56.00	46.00	-21.79	-
6	19.047	0.49	32.46	-	32.95	-	60.00	50.00	-27.05	-

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.

- 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
- 3. The emission levels of other frequencies were very low against the limit.
- 4. Margin value = Emission level Limit value
- 5. Correction factor = Insertion loss + Cable loss
- 6. Emission Level = Correction Factor + Reading Value.



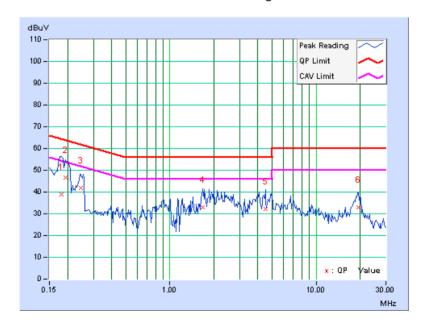


TEST MODE	Mode 1	6dB BANDWIDTH	9kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	26deg. C, 78%RH, 1012hPa	TESTED BY	Eric Lee

	Freq.	Corr.	Readin	g Value		sion vel	Lir	nit	Mar	gin
No		Factor	[dB	(uV)]	[dB	(uV)]	[dB	(uV)]	(dl	В)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.181	0.06	38.70	-	38.76	-	64.43	54.43	-25.67	-
2	0.193	0.06	46.43	-	46.49	-	63.91	53.91	-17.42	-
3	0.248	0.06	41.93	-	41.99	-	61.84	51.84	-19.84	-
4	1.688	0.13	32.77	-	32.90	-	56.00	46.00	-23.10	-
5	4.500	0.21	32.11	-	32.32	-	56.00	46.00	-23.68	-
6	19.492	0.51	32.44	-	32.95	-	60.00	50.00	-27.05	-

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.

- 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
- 3. The emission levels of other frequencies were very low against the limit.
- 4. Margin value = Emission level Limit value
- 5. Correction factor = Insertion loss + Cable loss
- 6. Emission Level = Correction Factor + Reading Value.





4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

TEST STANDARD:

FCC Part 15, Subpart B (Section: 15.109)

FOR FREQUENCY BELOW 1000 MHz (47 CFR Part 15 Subpart B)

FREQUENCY	Class A	(at 10m)	Class B (at 3m)		
(MHz)	uV/m	dBuV/m	uV/m	dBuV/m	
30 – 88	90	39.1	100	40.0	
88 – 216	150	43.5	150	43.5	
216 - 960	210	46.4	200	46.0	
Above 960	300	49.5	500	54.0	

LIMIT OF RADIATED EMISSION OF FCC PART 15, SUBPART B FOR FREQUENCY ABOVE 1000 MHz

FREQUENCY (MHz)	Class A (dBu	ıV/m) (at 3m)) (at 3m) Class B (dBuV/m) (at 3	
TREQUERTOT (IVITIZ)	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80.0	60.0	74.0	54.0

Note: (1) The lower limit shall apply at the transition frequencies.

- (2) Emission level (dBuV/m) = 20 log Emission level (uV/m).
- (3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower



4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250254	July 14, 2010	July 13, 2011
Agilent Pre-Selector	N9039A	MY46520310	Aug. 18, 2009	Aug. 17, 2010
Agilent Signal Generator	N5181A	MY49060347	July 18, 2010	July 17, 2011
LIG NEX1 Test Receiver	ER-265	L09068005	Aug. 31, 2009	Aug. 30, 2010
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-04	Nov. 18, 2009	Nov. 17, 2010
Agilent Pre-Amplifier	8449B	3008A02465	Mar. 01, 2010	Feb. 28, 2011
Miteq Pre-Amplifier	AFS33-1800265 0-30-8P-44	881786	NA	NA
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-361	Sep. 30, 2009	Sep. 29, 2010
AISI Horn_Antenna	AIH.8018	0000220091110	Nov. 16, 2009	Nov. 15, 2010
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Sep. 30, 2009	Sep. 29, 2010
RF CABLE	NA	RF104-205 RF104-207 RF104-208	Dec. 24, 2009	Dec. 23, 2010
RF Cable	NA	CHHCAB_001	NA	NA
Software	ADT_Radiated_ V8.7.05	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are

The calibration interval of the above test instruments is 12 months and the calibration traceable to NML/ROC and NIST/USA.
 The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 The test was performed in 966 Chamber No. H.
 The FCC Site Registration No. is 797305.
 The CANADA Site Registration No. is IC 7450H-3.



4.2.3 TEST PROCEDURE

The basic test procedure was in accordance with ANSI C63.4-2003 (section 8)

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which
 was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the turn table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

NOTE:

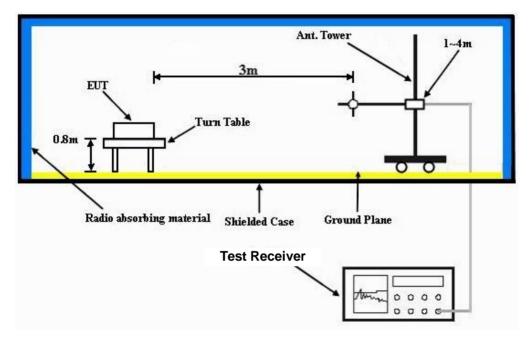
- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth is 1MHz and video bandwidth of test receiver/spectrum analyzer is 3MHz for Peak detection at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz for Average detection (AV) at frequency above 1GHz.
- 3. For measurement of frequency above 1000 MHz, the EUT was set 3 meters away from the interference-receiving antenna.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation



4.2.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

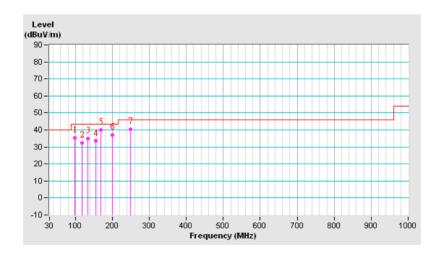


4.2.7 TEST RESULTS

TEST MODE	Mode 1	FREQUENCY RANGE	Below 1GHz
INPUT POWER (SYSTEM)		DETECTOR FUNCTION & BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	24 deg. C, 70 %RH, 1012hPa	TESTED BY	Eric Lee

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)		
1	98.26	35.26 QP	43.50	-8.24	1.60 H	0	25.36	9.90		
2	118.00	32.30 QP	43.50	-11.20	1.60 H	360	19.80	12.50		
3	134.56	35.00 QP	43.50	-8.50	1.80 H	355	21.21	13.79		
4	155.23	33.50 QP	43.50	-10.00	1.55 H	0	19.21	14.29		
5	168.96	40.21 QP	43.50	-3.29	1.80 H	200	26.31	13.90		
6	200.05	36.96 QP	43.50	-6.54	1.20 H	10	25.75	11.21		
7	250.00	40.52 QP	46.00	-5.48	1.20 H	300	27.57	12.95		

- 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- 2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
- 3. The other emission levels were very low against the limit.
- 4. Margin value = Emission level Limit value.

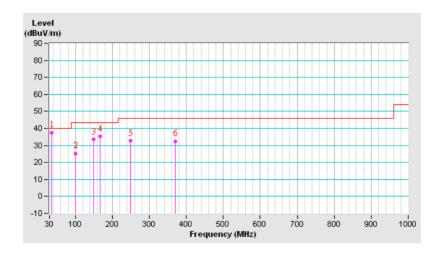




TEST MODE	Mode 1	FREQUENCY RANGE	Below 1GHz	
INPUT POWER (SYSTEM)		DETECTOR FUNCTION & BANDWIDTH	Quasi-Peak, 120kHz	
ENVIRONMENTAL CONDITIONS	24 deg. C, 70 %RH, 1012hPa	TESTED BY	Eric Lee	

	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M									
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)		
1	36.30	37.48 QP	40.00	-2.52	1.00 V	280	23.54	13.94		
2	100.09	25.30 QP	43.50	-18.20	1.00 V	35	15.33	9.97		
3	150.03	33.50 QP	43.50	-10.00	1.28 V	358	19.20	14.30		
4	167.02	35.20 QP	43.50	-8.30	2.00 V	305	21.22	13.98		
5	249.64	32.59 QP	46.00	-13.41	1.05 V	215	19.65	12.94		
6	370.83	32.51 QP	46.00	-13.49	1.80 V	360	15.46	17.05		

- 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- 2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
- 3. The other emission levels were very low against the limit.
- 4. Margin value = Emission level Limit value.

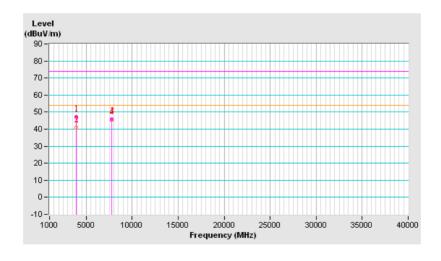




TEST MODE	Mode 1	FREQUENCY RANGE	1000~29500MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 70 %RH, 1012hPa	TESTED BY	Frank Liu

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)		
1	3883.33	47.20 PK	74.00	-26.80	1.24 H	51	11.55	35.65		
2	3883.33	40.80 AV	54.00	-13.20	1.24 H	51	5.15	35.65		
3	7766.66	46.10 PK	74.00	-27.90	1.84 H	250	1.38	44.72		
4	7766.66	45.60 AV	54.00	-8.40	1.84 H	250	0.88	44.72		

- 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- 2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
- 3. The other emission levels were very low against the limit.
- 4. Margin value = Emission level Limit value.

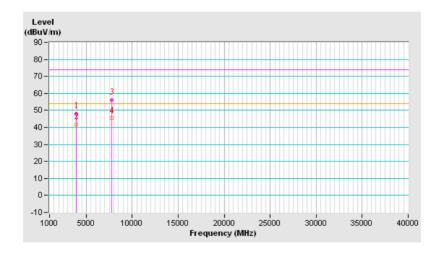




TEST MODE	Mode 1	FREQUENCY RANGE	1000~29500MHz
INPUT POWER (SYSTEM)		DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 70 %RH, 1012hPa	TESTED BY	Frank Liu

	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M									
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)		
1	3883.33	48.20 PK	74.00	-25.80	1.00 V	3	12.55	35.65		
2	3883.33	41.70 AV	54.00	-12.30	1.00 V	3	6.05	35.65		
3	7766.66	56.30 PK	74.00	-17.70	1.50 V	254	11.58	44.72		
4	7766.66	45.30 AV	54.00	-8.70	1.50 V	254	0.58	44.72		

- 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- 2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
- 3. The other emission levels were very low against the limit.
- 4. Margin value = Emission level Limit value.





5 INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025:

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab: Hsin Chu EMC/RF Lab:

Tel: 886-2-26052180 Tel: 886-3-5935343 Fax: 886-2-26052943 Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:

Tel: 886-3-3183232 Fax: 886-3-3185050

Email: service@adt.com.tw
Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.

Report No.: FD990709E01 23 Report Format Version 3.0.1



6 APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

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