



# CFR 47 FCC PART 15 SUBPART C

**TEST REPORT** 

For

## VA-1000 HD STREAMING VIDEO DRONE

## MODEL NUMBER: VL-6267, OA-6286, OA-6287

## FCC ID: 2ASK3VL-6267R

## **REPORT NUMBER: 4789895964-3**

ISSUE DATE: April 20, 2021

Prepared for

### AMAX INDUSTRIAL GROUP CHINA CO.,LTD OFFICE NO.3 10/F WITTY COMMERCIAL BUILDING 1A-1L TUNG CHOI STREET MONGKOK KOWLOON HONG KONG

Prepared by

UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China

> Tel: +86 769 22038881 Fax: +86 769 33244054 Website: www.ul.com

The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products.



### **Revision History**

Rev.	Issue Date	Revisions	Revised By
V0	04/20/2021	Initial Issue	



Summary of Test Results					
Clause	Test Items	Test Results			
1	20dB Bandwidth and 99% Occupied Bandwidth	CFR 47 FCC §15.215 (c)	Pass		
2	Radiated Emission	CFR 47 FCC §15.249 (a)(d)(e) CFR 47 FCC §15.205 and §15.209	Pass		
4	Conducted Emission Test for AC Power Port	FCC Part 15.207	Not Applicable (Note 3)		
3 Antenna Requirement		CFR 47 FCC §15.203 Pass			
Note 1: This test report is only published to and used by the applicant, and it is not for evidence purpose in China.					

Note 2: The measurement result for the sample received is <Pass> according to < CFR 47 FCC PART 15 SUBPART C > when <Accuracy Method> decision rule is applied. Note 3: The EUT was power by battery and the battery need to be charged outside the EUT.



# TABLE OF CONTENTS

1.	ATT	ESTATION OF TEST RESULTS	.5
2.	TES	T METHODOLOGY	.6
3.	FAC	CILITIES AND ACCREDITATION	.6
4.	CAL	IBRATION AND UNCERTAINTY	.7
4	.1.	MEASURING INSTRUMENT CALIBRATION	.7
4	.2.	MEASUREMENT UNCERTAINTY	.7
5.	EQU	JIPMENT UNDER TEST	.8
5	.1.	DESCRIPTION OF EUT	.8
5	.2.	MAXIMUM FIELD STRENGTH	.8
5	.3.	CHANNEL LIST	.8
5	.4.	DESCRIPTION OF AVAILABLE ANTENNAS	.9
5	.5.	TEST CHANNEL CONFIGURATION	.9
5	.6.	THE WORSE CASE POWER SETTING PARAMETER	.9
5	.7.	TEST ENVIRONMENT	.9
5	.8.	DESCRIPTION OF TEST SETUP	10
5	.9.	MEASURING INSTRUMENT AND SOFTWARE USED	11
6.		TENNA PORT TEST RESULTS	2
6	.1.	ON TIME AND DUTY CYCLE	12
6	.2.	20 dB BANDWIDTH AND 99% OCCUPIED BANDWIDTH	15
7.	RA	DIATED TEST RESULTS	9
7	.1.	LIMITS AND PROCEDURE	19
7	.2.	RESTRICTED BANDEDGE AND FIELD STRENGTH OF INTENTIONAL EMISSIONS 25	3
7	.3.	SPURIOUS EMISSIONS (1~3GHz)	31
7	.4.	SPURIOUS EMISSIONS (3~18GHz)	37
7	.5.	SPURIOUS EMISSIONS (18~26GHz)	43
7	.6.	SPURIOUS EMISSIONS BELOW 30MHz	45
7	.7.	SPURIOUS EMISSIONS BELOW 1GHz AND ABOVE 30MHz	48
8.	ANT	ENNA REQUIREMENTS	50



# **1. ATTESTATION OF TEST RESULTS**

#### Applicant Information

Company Name:	AMAX INDUSTRIAL GROUP CHINA CO.,LTD
Address:	OFFICE NO.3 10/F WITTY COMMERCIAL BUILDING 1A-1L
	TUNG CHOI STREET MONGKOK KOWLOON HONG KONG

#### Manufacturer Information

Company Name:	AMAX INDUSTRIAL GROUP CHINA CO., LTD
Address:	OFFICE NO.3 10/F WITTY COMMERCIAL BUILDING 1A-1L
	TUNG CHOI STREET MONGKOK KOWLOON HONG KONG

#### **EUT Information**

EUT Name:	VA-1000 HD STREAMING VIDEO DRONE
Model:	VL-6267, OA-6286, OA-6287
Serial Model:	Please refer to clause 5.1. Description of EUT
Sample Received Date:	April 7, 2021
Sample Status:	Normal
Sample ID:	3788506
Date of Tested:	April 7, 2021 ~ April 14, 2021

APPLICABLE STANDARDS				
STANDARD	TEST RESULTS			
CFR 47 FCC PART 15 SUBPART C	PASS			

Prepared By:

Anon Ven

Checked By:

Sherry les

Shawn Wen Laboratory Leader

**Denny Huang Project Engineer** 

Approved By:

Stephen Guo Laboratory Manager



# 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 414788 D01 Radiated Test Site v01r01, FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, ISED RSS-210 Issue 10 and RSS-GEN Issue 5.

# 3. FACILITIES AND ACCREDITATION

	A2LA (Certificate No.: 4102.01)
	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
	has been assessed and proved to be in compliance with A2LA.
	FCC (FCC Designation No.: CN1187)
	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
	Has been recognized to perform compliance testing on equipment subject to
	the Commission's Declaration of Conformity (DoC) and Certification rules.
	ISED (Company No.: 21320)
Accreditation	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
Certificate	has been registered and fully described in a report filed with ISED. The
Ocrimotic	Company Number is 21320 and the test lab Conformity Assessment Body
	Identifier (CABID) is CN0046.
	VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)
	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
	has been assessed and proved to be in compliance with VCCI, the
	Membership No. is 3793.
	Facility Name:
	Chamber D, the VCCI registration No. is G-20019 and R-20004
	Shielding Room B, the VCCI registration No. is C-20012 and T-20011

Note:

- All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China
- The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.
- 3. For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30MHz had been correlated to measurements performed on an OFS.



# 4. CALIBRATION AND UNCERTAINTY

# 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

# 4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty		
Conduction emission	3.62dB		
Radiation Emission test (include Fundamental emission) (9KHz-30MHz)	2.2dB		
Radiation Emission test (include Fundamental emission) (30MHz-1GHz)	4.00dB		
Radiation Emission test	5.78dB (1GHz-18GHz)		
(1GHz to 26GHz) (include Fundamental emission)	5.23dB (18GHz-26GHz)		
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.			



# 5. EQUIPMENT UNDER TEST

## 5.1. DESCRIPTION OF EUT

EUT Name	VA-1000 HD STREAMING VIDEO DRONE			
Model	VL-6267, OA-6286, OA-6287			
Model difference	OA-6286/OA-6287 have the same technical construction including circuit diagram, PCB Layout, components and component layout, all electrical construction and mechanical construction with VL-6267. The difference lies only the model number and color.			
Braduat Description	Operation Frequency	2408 MHz ~ 2472 MHz		
Product Description	Modulation Type GFSK			
Power Supply	DC 4.5 V			

## 5.2. MAXIMUM FIELD STRENGTH

Frequency (MHz)	Channel Number	Max Peak field strength (dBµV/m)		
2408	1[66]	71.63		

# 5.3. CHANNEL LIST

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2408	18	2424	35	2441	52	2458
2	2409	19	2425	36	2442	53	2459
3	2410	20	2426	37	2443	54	2460
4	2411	21	2427	38	2444	55	2461
5	2412	22	2428	39	2445	56	2462
6	2413	23	2429	40	2446	57	2463
7	2414	24	2430	41	2447	58	2464
8	2415	25	2431	42	2448	59	2465
9	2416	26	2432	43	2449	60	2466
10	2417	27	2433	44	2450	61	2467
11	2418	28	2434	45	2451	62	2468
12	2419	29	2435	46	2452	63	2469
13	2420	30	2436	47	2453	64	2470
14	2421	31	2437	48	2454	65	2471
15	2422	32	2438	49	2455	66	2472
16	2423	33	2439	50	2456	67	
17	2424	34	2440	51	2457	68	

UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch This report shall not be reproduced except in full, without the written approval of UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch.



## 5.4. DESCRIPTION OF AVAILABLE ANTENNAS

	Antenna Type Antenna Gain (dBi)
1 2408 ~ 2472	Nire Antenna 0

Test Mode	Transmit and Receive Mode	Description
GFSK	⊠1TX	Antenna 1 can be used as transmitting antenna.

## 5.5. TEST CHANNEL CONFIGURATION

Test M	lode	Test Channel	Frequency
GFS	SK	CH 1 (Low Channel), CH 34 (MID Channel), CH 66 (High Channel)	2408MHz, 2440MHz, 2472MHz

## 5.6. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter under 2408 MHz ~ 2472 MHz Band							
Test Soft	ware Version	/					
Modulation Type	Transmit Antenna	Test Channel					
	Number	CH 1	CH 34	CH 66			
GFSK	1	Default	Default	Default			

## 5.7. TEST ENVIRONMENT

Environment Parameter	Selected Values During Tests				
Relative Humidity	55	55 ~ 65 %			
Atmospheric Pressure:	1025 Pa				
Temperature	TN	22 ~ 28 °C			
	VL	/			
Voltage:	VN	DC 3.7 V			
	VH	/			

Note: VL= Lower Extreme Test Voltage VN= Nominal Voltage VH= Upper Extreme Test Voltage TN= Normal Temperature



# 5.8. DESCRIPTION OF TEST SETUP

#### SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	P/N	
/	/	/	/	/	

#### I/O CABLES

Cable No	Port Connector Type		Cable Type	Cable Length(m)	Remarks
/	/ /		/	/	/

#### ACCESSORY

Item	Equipment	Mfr/Brand	Model/Type No.	Specification	Series No.
/	/	/	/	/	/

#### TEST SETUP

The EUT have the engineer mode inside.

#### SETUP DIAGRAM FOR TEST



Note: New battery was used during all tests.



# 5.9. MEASURING INSTRUMENT AND SOFTWARE USED

Radiated Emissions									
			In	strument					
Used	Equipment	Manufacturer	Mode	el No.	Seria	l No.	Last Cal.	Next Cal.	
	MXE EMI Receiver	KESIGHT	N90	)38A	MY564	00036	Nov. 12, 2020	Nov. 11, 2021	
V	Hybrid Log Periodic Antenna	TDK	HLP-;	3003C	130	960	Aug. 11, 2018	Aug. 10, 2021	
V	Preamplifier	HP	844	47D	2944A	09099	Nov. 12, 2020	Nov. 11, 2021	
V	EMI Measurement Receiver	R&S	ES	R26	101	377	Nov. 12, 2020	Nov. 11, 2021	
V	Horn Antenna	TDK	HRN	-0118	130	939	Sept. 17, 2018	Sept. 17, 2021	
V	Preamplifier	TDK	PA-02-0118		TRS-305- 00067		Nov. 20, 2020	Nov. 19, 2021	
V	Horn Antenna	Schwarzbeck	BBHA9170		#691		Aug. 11, 2018	Aug. 11, 2021	
V	Preamplifier	TDK	PA-	02-2	TRS-307- 00003		Nov. 12, 2020	Nov. 11, 2021	
V	Preamplifier	TDK	PA-	02-3	TRS- 000		Nov. 12, 2020	Nov. 11, 2021	
V	Loop antenna	Schwarzbeck	15	19B	000	800	Jan.17, 2019	Jan.17,2022	
V	Preamplifier	TDK	PA-02-0	001-3000	TRS- 000		Nov. 12, 2020	Nov. 11, 2021	
V	Preamplifier	Mini-Circuits		3LN-S+	SUP01	201941	Nov. 20, 2020	Nov. 19, 2021	
V	Band Reject Filter	Wainwright	2400-2	/8-2350- 2483.5- 5-40SS	2	1	Nov. 12, 2020	Nov. 11, 2021	
V	High Pass Filter	Wi	WHKX10-2700- 3000-18000- 40SS		2	3	Nov. 12, 2020	Nov. 11, 2021	
			S	Software					
Used	De	escription		Manufa	cturer		Name	Version	
		vare for Radiat sturbance	ed	Fara	ad	E	Z-EMC	Ver. UL-3A1	

UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch This report shall not be reproduced except in full, without the written approval of UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch.



# 6. ANTENNA PORT TEST RESULTS

## 6.1. ON TIME AND DUTY CYCLE

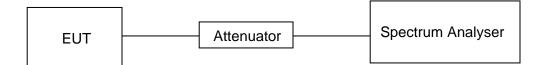
#### <u>LIMITS</u>

None; for reporting purposes only

#### PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method

#### TEST SETUP



#### **TEST ENVIRONMENT**

Temperature	26.4 °C	Relative Humidity	57.2 %	
Atmosphere Pressure	101 kPa	Test Voltage	DC 3.7 V	

#### **RESULTS**

Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (db)
GFSK	5.1	100	0.051	5.1	-25.85

Note: Duty Cycle Correction Factor=20log(x). Where: x is Duty Cycle



#### ON TIME AND DUTY CYCLE MID CH PLOT-1

Receive	r	Spectrum	×							
Ref Lev	el 67.00	dBµ∨	_	RBW 1	MHz					
🗎 Att		0 dB 😑 SWT	30 ms 👄	VBW 3	MHz	Input	1 AC			
SGL PS P	A									
⊖1Pk Clrw	●2Pk Clr	N								
						D	2[1]			-0.20 dB
60 dBµV—										1.2900 ms
						M	1[1]			36.17 dBµV
50 dBµV—										11.6700 ms
				MI						
40 dBµV—				-01D2	2					
				<u>Ì</u> ₩े <b>↑</b>	ጣ					
30 dBµV—										
00 40.44										
20 dBµV—										
40.48.07		الملبح سراجيا فرها		مر ا ا مر	6 6 m	w. Law york		a du la lam		
order of the state	and the second second	offeet for a start of the second s	HI AN WORK	ma h-	all solard	odhhamhana	d'matheat	M A developments	well for all and a low	ng wanter and the second second
0 dBuV										
0 0001										
-10 dBµV-										
-20 dBµV-										
-30 dBµV-			-	_						
CF 2.44 (	GHz				1001 p	ts				3.0 ms/
Marker										
	ef Trc	X-valu	e l	Y-1	/alue	Fund	tion		Function Re	esult l
M1	1		1.67 ms		5.17 dBµV					
	M1 1		10.0 µs		-0.35 dB					
D2	M1 1		1.29 ms		-0.20 dB					
							eady			14.04.2021
	1 11									14:03:53

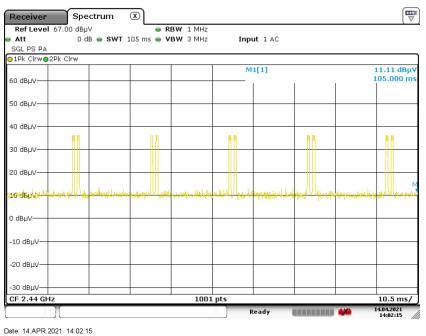
Date: 14.APR.2021 14:03:53





Date: 14.APR.2021 14:03:07





Note: All the modes had been tested, but only the worst duty cycle recorded in the report.



## 6.2. 20 dB BANDWIDTH AND 99% OCCUPIED BANDWIDTH

#### LIMITS

CFR 47 FCC Part15 (15.249) Subpart C			
Section Test Item Limit Frequency Range (MHz)			
CFR 47 FCC §15.215 (c)	20dB Bandwidth	for reporting purposes only	2400-2483.5
ISED RSS-Gen Clause 6.7 Issue 5	99% Occupied Bandwidth	For reporting purposes only.	2400-2483.5

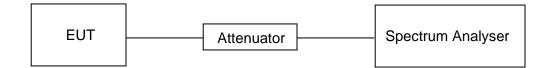
#### TEST PROCEDURE

Connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	1% to 5% of the occupied bandwidth
VBW	approximately 3×RBW
Trace	Max hold
Sweep	Auto couple

Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB/99% relative to the maximum level measured in the fundamental emission.

#### TEST SETUP



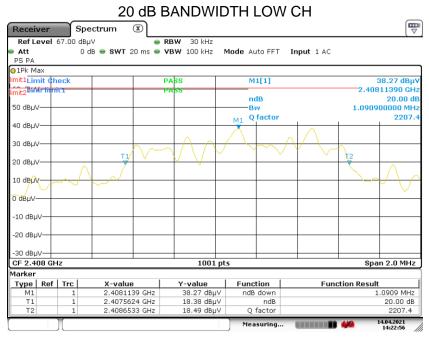
#### TEST ENVIRONMENT

Temperature	26.4 °C	Relative Humidity	57.2 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 3.7 V

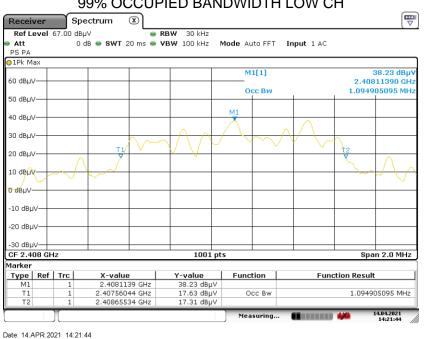
UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch This report shall not be reproduced except in full, without the written approval of UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch.



Frequency (MHz)	20dB bandwidth (MHz)	99% bandwidth (MHz)	Result
2408	1.0909	1.0949	PASS



Date: 14.APR.2021 14:22:56

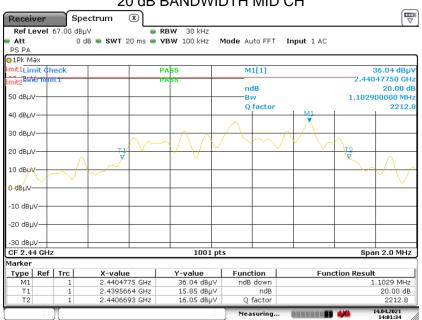


#### 99% OCCUPIED BANDWIDTH LOW CH

UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch FORM NO.: 10-SL-F0058 This report shall not be reproduced except in full, without the written approval of UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch.



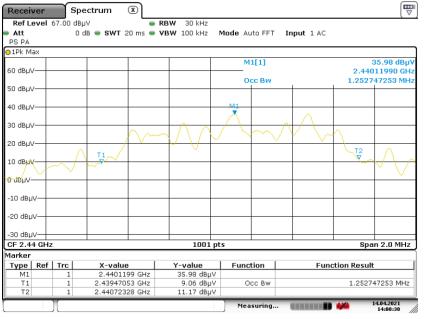
Frequency	20dB bandwidth	99% bandwidth	Result
(MHz)	(MHz)	(MHz)	
2440	1.1029	1.2527	PASS



#### 20 dB BANDWIDTH MID CH

Date: 14.APR.2021 14:01:34

#### 99% OCCUPIED BANDWIDTH MID CH



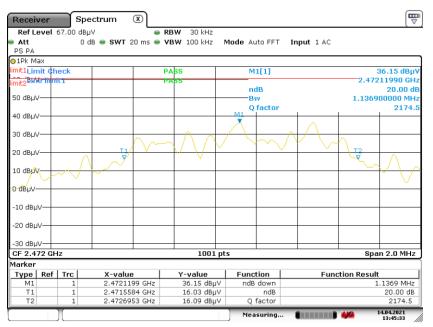
Date: 14.APR.2021 14:00:30

UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch FORM NO.: 10-SL-F0058 This report shall not be reproduced except in full, without the written approval of UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch.

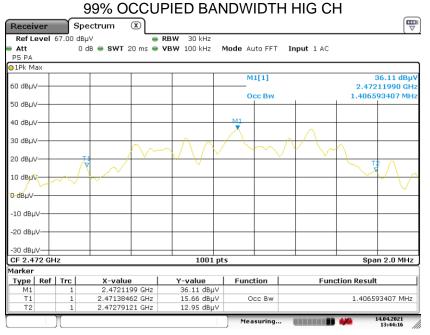


Frequency	20dB bandwidth	99% bandwidth	Result
(MHz)	(MHz)	(MHz)	
2472	1.1369	1.4066	PASS

#### 20 dB BANDWIDTH HIG CH

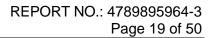


Date: 14.APR.2021 13:45:33



Date: 14.APR.2021 13:44:16

UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch FORM NO.: 10-SL-F0058 This report shall not be reproduced except in full, without the written approval of UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch.





# 7. RADIATED TEST RESULTS

# 7.1. LIMITS AND PROCEDURE

#### LIMITS

CFR 47 FCC §15.205 and §15.209

CFR 47 FCC §15.249 (a)(d)(c)(e)

The field strength of emissions from intentional radiators operated within these frequency bands			
Frequency (MHz)	Field strength of Fundamental	Field strength of Harmonics	Distance (m)
902 - 928	50 mV/m (94 dBuV/m)	500 uV/m (54 dBuV/m)	3
2400 - 2483.5	50 mV/m (94 dBuV/m)	500 uV/m (54 dBuV/m)	3
5725 – 5875	50 mV/m (94 dBuV/m)	500 uV/m (54 dBuV/m)	3

Emissions radiated outside of the specified frequency bands above 30MHz			
Frequency Range	Field Strength Limit	Field Stre	ngth Limit
(MHz)	(uV/m) at 3 m	(dBuV/m	n) at 3 m
(11112)		Quasi-Peak	
30 - 88	100	40	
88 - 216	150	43.5	
216 - 960	200	46	
Above 960	500	54	
Above 1000	500	Peak	Average
	500	74	54

FCC Emissions radiated outside of the specified frequency bands below 30MHz		
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30



FCC Restricted bands of operation:

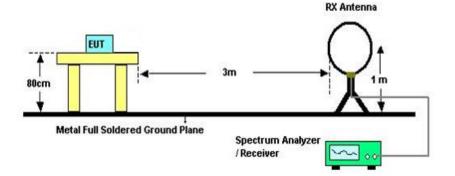
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	( <sup>2</sup> )
13.36-13.41			

Note: <sup>1</sup>Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. <sup>2</sup>Above 38.6c



#### TEST SETUP AND PROCEDURE

Below 30 MHz



The setting of the spectrum analyser

RBW	200Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
VBW	200Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
Sweep	Auto
Detector	Peak/QP/ Average
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.

2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80cm meter above ground.

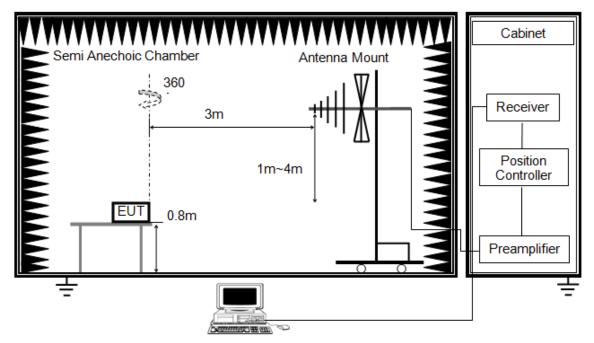
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1m height antenna tower.

5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

6. Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30m open field site. Therefore, the sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.



#### Below 1 GHz



The setting of the spectrum analyser

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

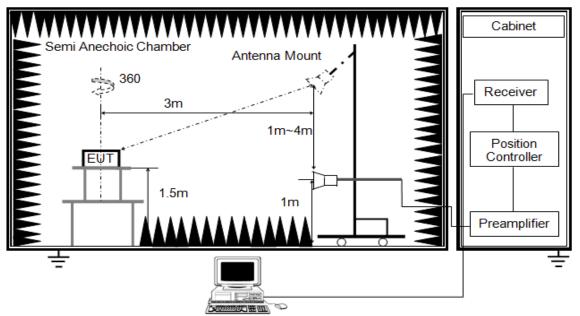
3. The EUT was placed on a turntable with 80cm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

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



Above 1 GHz



The setting of the spectrum analyser. (For Bandedge and Field strength)

RBW	≥ OBW (2 MHz)
IVBW/	PEAK: ≥ 3×RBW AVG: see note 5
Sweep	Auto
Detector	Peak
Trace	Max hold

The setting of the spectrum analyser. (For Spurious emissions)

RBW	1 MHz
	PEAK: 3 MHz AVG: see note 5
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.

2. The EUT was arranged to its worst case and then tune the antenna tower (1.5 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter or band reject filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 150cm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

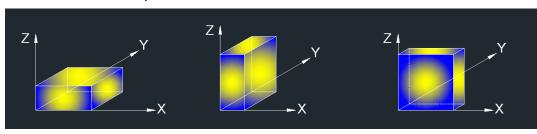
5. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements. Where necessary, average emission are



determined by applying the Duty Cycle Correction Factor to the peak measurements. For the Duty Cycle and Correction Factor please refer to clause 6.1. ON TIME AND DUTY CYCLE.

6. For measurements Bandedge above 1 GHz, the resolution bandwidth is set to 2 MHz, then the video bandwidth is set to  $\geq$  3×RBW for peak measurements. This test results are worse than using 1MHz resolution bandwidth, so if the result is pass, the test is considered to meet the standard requirements.

X axis, Y axis, Z axis positions:



Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

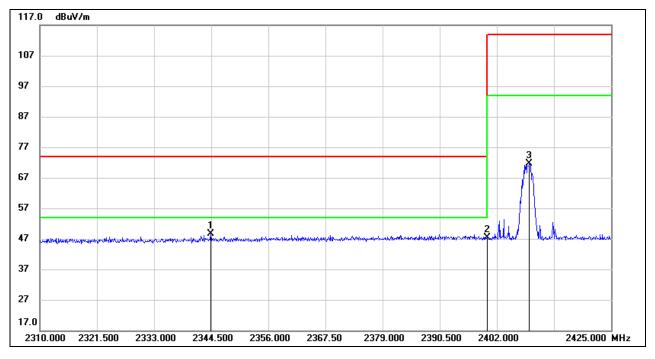
#### TEST ENVIRONMENT

Temperature	26.4 °C	Relative Humidity	57.2 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 3.7 V



# 7.2. RESTRICTED BANDEDGE AND FIELD STRENGTH OF INTENTIONAL EMISSIONS





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2344.385	15.51	33.00	48.51	74.00	-25.49	peak
2	2400.000	13.91	33.43	47.34	74.00	-26.66	peak
3	2408.555	38.17	33.46	71.63	114.00	-42.37	peak

Note: 1. Measurement = Reading Level + Correct Factor.

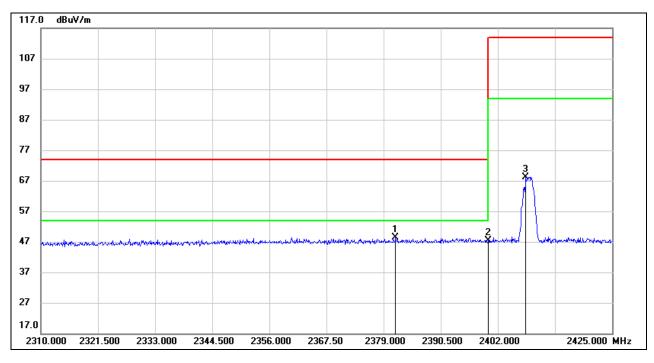
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. AVG Result=Peak Result + Duty Correction Factor.

5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.

#### RESTRICTED BANDEDGE AND FIELD STRENGTH OF INTENTIONAL EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2381.415	15.08	33.29	48.37	74.00	-25.63	peak
2	2400.000	13.99	33.43	47.42	74.00	-26.58	peak
3	2407.635	34.70	33.45	68.15	114.00	-45.85	peak

Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

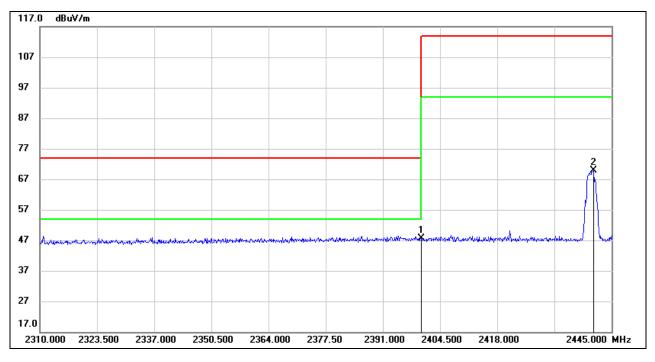
3. Peak: Peak detector.

4. AVG Result=Peak Result + Duty Correction Factor.

5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.



#### FIELD STRENGTH OF INTENTIONAL EMISSIONS (MID CHANNEL, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2400.000	14.18	33.43	47.61	74.00	-26.39	peak
2	2440.680	36.21	33.56	69.77	114.00	-44.23	peak

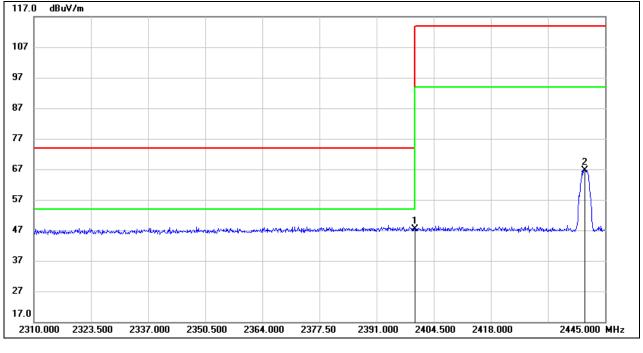
Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.



#### FIELD STRENGTH OF INTENTIONAL EMISSIONS (MID CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2400.000	13.86	33.43	47.29	74.00	-26.71	peak
2	2440.140	33.14	33.56	66.70	114.00	-47.30	peak

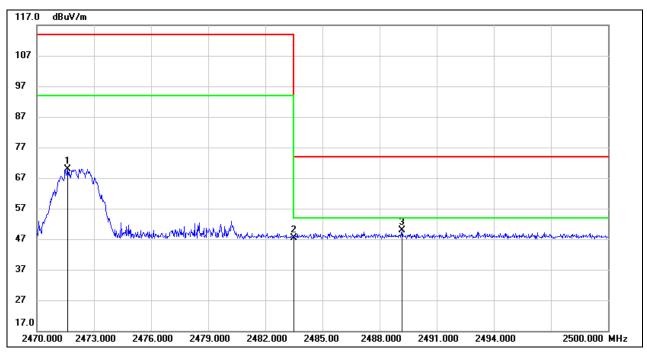
Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.



#### RESTRICTED BANDEDGE AND FIELD STRENGTH OF INTENTIONAL EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2471.620	36.30	33.67	69.97	114.00	-44.03	peak
2	2483.500	13.68	33.71	47.39	74.00	-26.61	peak
3	2489.170	16.08	33.72	49.80	74.00	-24.20	peak

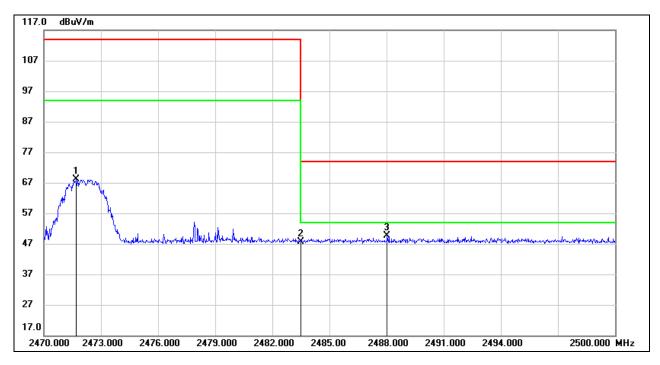
Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.



#### RESTRICTED BANDEDGE AND FIELD STRENGTH OF INTENTIONAL EMISSIONS (HIGH CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2471.710	34.45	33.67	68.12	114.00	-45.88	peak
2	2483.500	13.85	33.71	47.56	74.00	-26.44	peak
3	2488.030	15.84	33.72	49.56	74.00	-24.44	peak

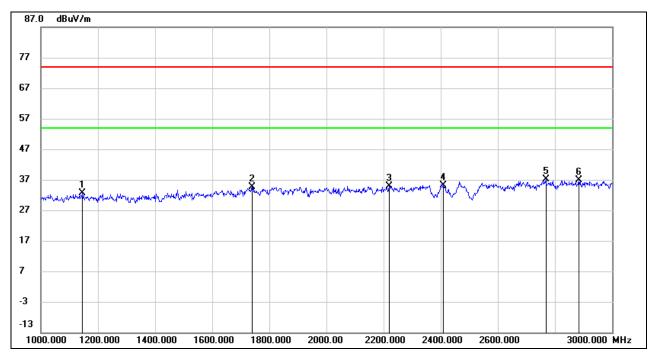
Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.



# 7.3. SPURIOUS EMISSIONS (1~3GHz)



#### HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1144.000	45.91	-13.27	32.64	74.00	-41.36	peak
2	1740.000	45.25	-10.51	34.74	74.00	-39.26	peak
3	2220.000	43.96	-8.98	34.98	74.00	-39.02	peak
4	2408.000	43.62	-8.39	35.23	74.00	-38.77	peak
5	2768.000	43.90	-6.76	37.14	74.00	-36.86	peak
6	2884.000	43.14	-6.15	36.99	74.00	-37.01	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

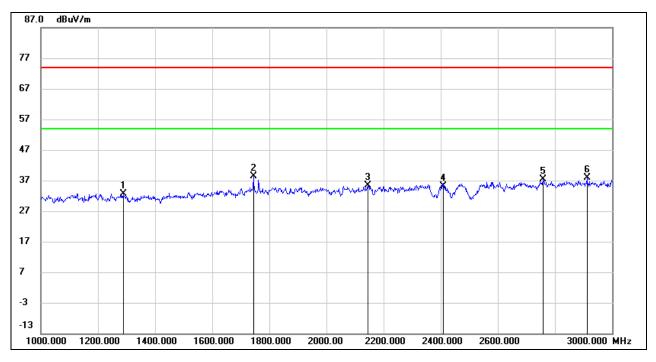
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.



#### HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1288.000	45.61	-12.86	32.75	74.00	-41.25	peak
2	1744.000	48.79	-10.47	38.32	74.00	-35.68	peak
3	2144.000	44.73	-9.37	35.36	74.00	-38.64	peak
4	2408.000	43.48	-8.39	35.09	74.00	-38.91	peak
5	2758.000	44.15	-6.82	37.33	74.00	-36.67	peak
6	2912.000	43.86	-6.01	37.85	74.00	-36.15	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

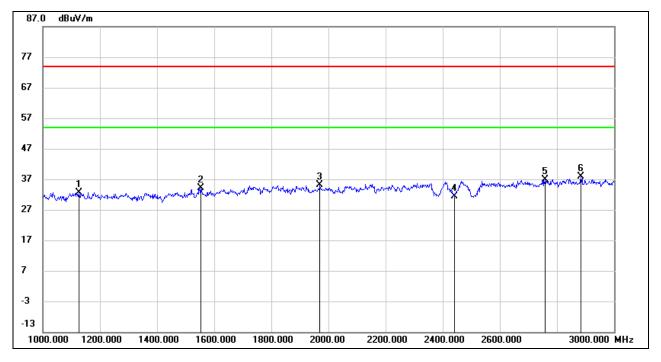
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.



#### HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1126.000	46.07	-13.36	32.71	74.00	-41.29	peak
2	1552.000	45.91	-11.88	34.03	74.00	-39.97	peak
3	1970.000	45.28	-10.16	35.12	74.00	-38.88	peak
4	2440.000	39.65	-8.33	31.32	74.00	-42.68	peak
5	2758.000	43.72	-6.82	36.90	74.00	-37.10	peak
6	2884.000	44.11	-6.15	37.96	74.00	-36.04	peak

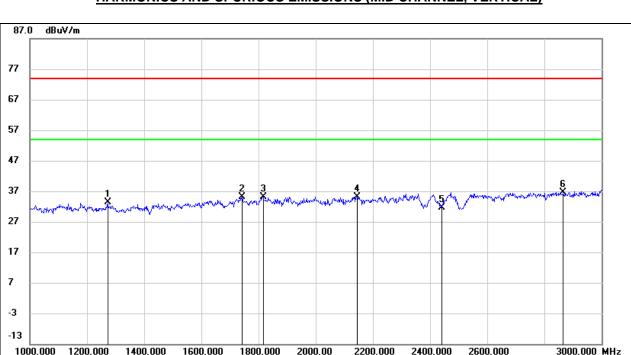
Note: 1. Peak Result = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.





#### HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1272.000	46.22	-12.89	33.33	74.00	-40.67	peak
2	1742.000	45.51	-10.49	35.02	74.00	-38.98	peak
3	1816.000	45.20	-10.06	35.14	74.00	-38.86	peak
4	2146.000	44.58	-9.36	35.22	74.00	-38.78	peak
5	2440.000	39.98	-8.33	31.65	74.00	-42.35	peak
6	2866.000	42.96	-6.23	36.73	74.00	-37.27	peak

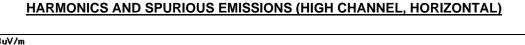
Note: 1. Peak Result = Reading Level + Correct Factor.

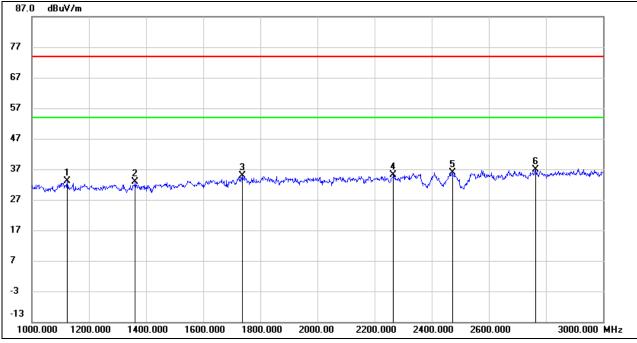
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1124.000	46.56	-13.37	33.19	74.00	-40.81	peak
2	1362.000	45.71	-12.76	32.95	74.00	-41.05	peak
3	1736.000	45.39	-10.52	34.87	74.00	-39.13	peak
4	2266.000	44.02	-8.83	35.19	74.00	-38.81	peak
5	2472.000	44.18	-8.27	35.91	74.00	-38.09	peak
6	2764.000	43.79	-6.79	37.00	74.00	-37.00	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

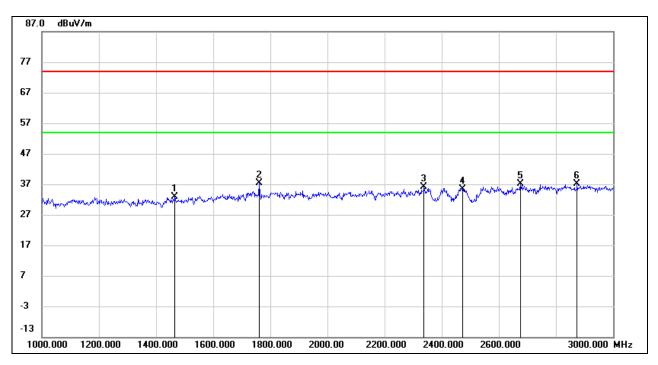
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1466.000	45.38	-12.39	32.99	74.00	-41.01	peak
2	1762.000	47.80	-10.33	37.47	74.00	-36.53	peak
3	2338.000	44.79	-8.60	36.19	74.00	-37.81	peak
4	2472.000	43.71	-8.27	35.44	74.00	-38.56	peak
5	2676.000	44.44	-7.37	37.07	74.00	-36.93	peak
6	2874.000	43.30	-6.19	37.11	74.00	-36.89	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

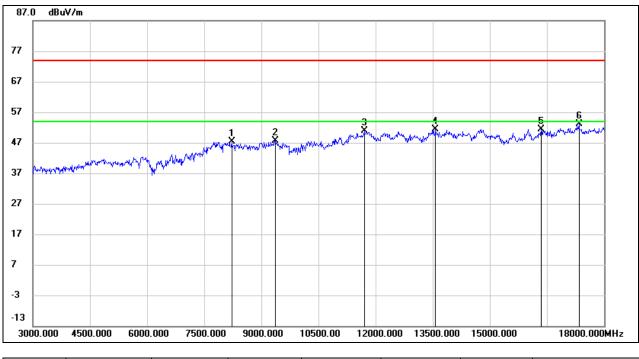
3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.



# 7.4. SPURIOUS EMISSIONS (3~18GHz)

# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8220.000	37.55	9.79	47.34	74.00	-26.66	peak
2	9375.000	36.79	10.83	47.62	74.00	-26.38	peak
3	11700.000	35.41	15.35	50.76	74.00	-23.24	peak
4	13575.000	34.32	17.13	51.45	74.00	-22.55	peak
5	16350.000	31.67	19.65	51.32	74.00	-22.68	peak
6	17340.000	30.74	22.31	53.05	74.00	-20.95	peak

Note: 1. Measurement = Reading Level + Correct Factor.

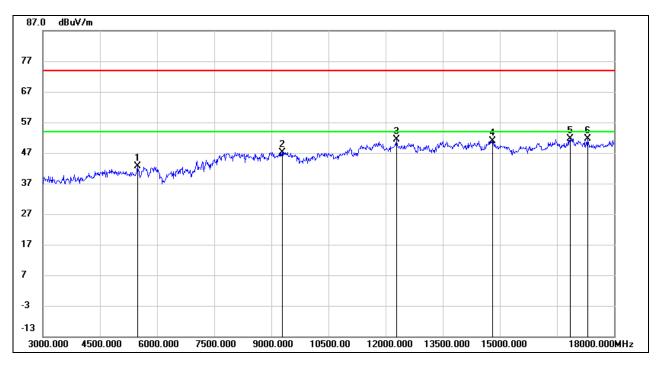
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. The High Pass filter loss factor already add into the correct factor.



## HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5490.000	39.20	3.32	42.52	74.00	-31.48	peak
2	9285.000	36.89	10.33	47.22	74.00	-26.78	peak
3	12285.000	35.32	16.08	51.40	74.00	-22.60	peak
4	14805.000	32.89	18.00	50.89	74.00	-23.11	peak
5	16845.000	30.49	21.10	51.59	74.00	-22.41	peak
6	17310.000	29.18	22.54	51.72	74.00	-22.28	peak

Note: 1. Measurement = Reading Level + Correct Factor.

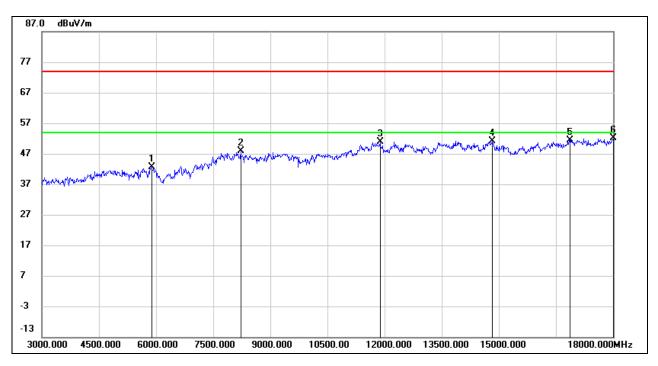
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. The High Pass filter loss factor already add into the correct factor.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5880.000	38.38	4.31	42.69	74.00	-31.31	peak
2	8220.000	37.98	9.79	47.77	74.00	-26.23	peak
3	11880.000	35.47	15.46	50.93	74.00	-23.07	peak
4	14820.000	33.27	17.91	51.18	74.00	-22.82	peak
5	16860.000	30.25	21.22	51.47	74.00	-22.53	peak
6	18000.000	27.79	24.27	52.06	74.00	-21.94	peak

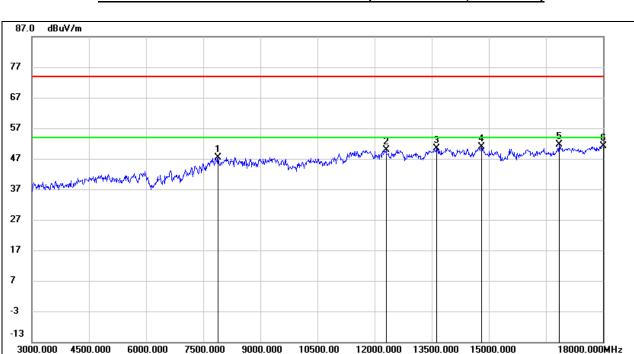
Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. The High Pass filter loss factor already add into the correct factor.





#### HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

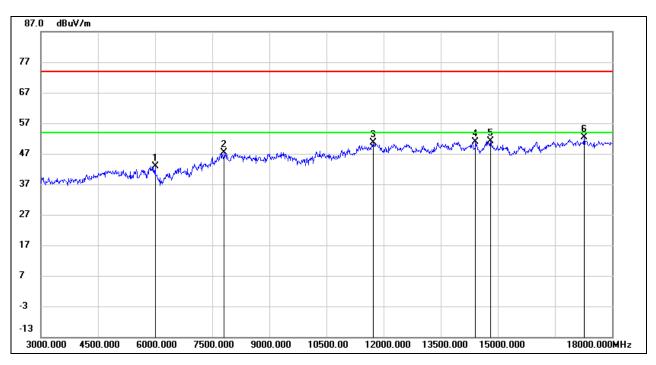
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7890.000	38.48	8.91	47.39	74.00	-26.61	peak
2	12300.000	33.79	16.09	49.88	74.00	-24.12	peak
3	13620.000	33.28	17.19	50.47	74.00	-23.53	peak
4	14805.000	32.76	18.00	50.76	74.00	-23.24	peak
5	16845.000	30.60	21.10	51.70	74.00	-22.30	peak
6	18000.000	26.91	24.27	51.18	74.00	-22.82	peak

Note: 1. Measurement = Reading Level + Correct Factor.

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. The High Pass filter loss factor already add into the correct factor.
- 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	6000.000	38.99	4.00	42.99	74.00	-31.01	peak
2	7815.000	38.01	9.28	47.29	74.00	-26.71	peak
3	11730.000	35.30	15.32	50.62	74.00	-23.38	peak
4	14415.000	33.64	17.36	51.00	74.00	-23.00	peak
5	14805.000	33.09	18.00	51.09	74.00	-22.91	peak
6	17265.000	29.92	22.39	52.31	74.00	-21.69	peak

Note: 1. Measurement = Reading Level + Correct Factor.

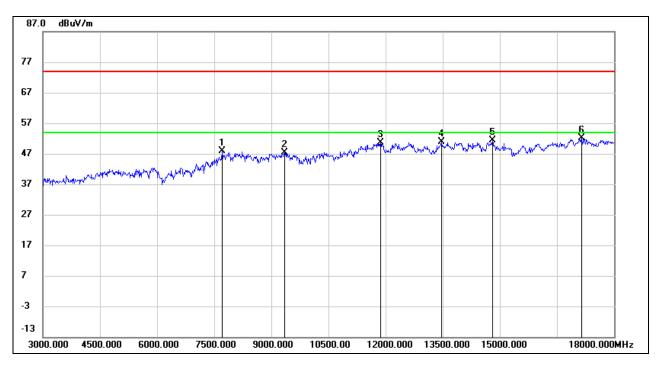
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. The High Pass filter loss factor already add into the correct factor.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7710.000	39.41	8.54	47.95	74.00	-26.05	peak
2	9345.000	36.70	10.66	47.36	74.00	-26.64	peak
3	11865.000	35.16	15.42	50.58	74.00	-23.42	peak
4	13470.000	33.65	17.15	50.80	74.00	-23.20	peak
5	14805.000	33.29	18.00	51.29	74.00	-22.71	peak
6	17145.000	30.13	21.94	52.07	74.00	-21.93	peak

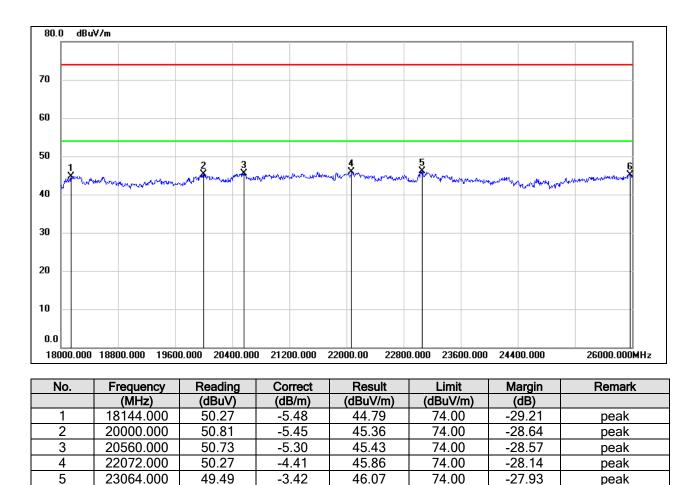
Note: 1. Measurement = Reading Level + Correct Factor.

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. The High Pass filter loss factor already add into the correct factor.
- 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# 7.5. SPURIOUS EMISSIONS (18~26GHz)

### HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)



Note: 1. Measurement = Reading Level + Correct Factor.

46.13

-1.00

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

45.13

74.00

-28.87

peak

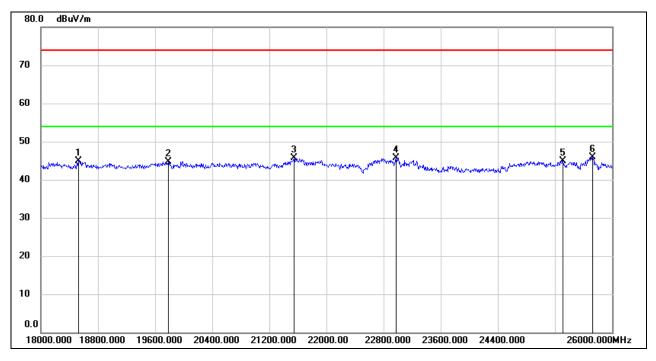
3. Peak: Peak detector.

25968.000

6



#### HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18528.000	50.11	-5.26	44.85	74.00	-29.15	peak
2	19784.000	50.07	-5.28	44.79	74.00	-29.21	peak
3	21544.000	50.26	-4.63	45.63	74.00	-28.37	peak
4	22976.000	49.26	-3.46	45.80	74.00	-28.20	peak
5	25312.000	46.70	-1.70	45.00	74.00	-29.00	peak
6	25728.000	46.61	-0.72	45.89	74.00	-28.11	peak

Note: 1. Measurement = Reading Level + Correct Factor.

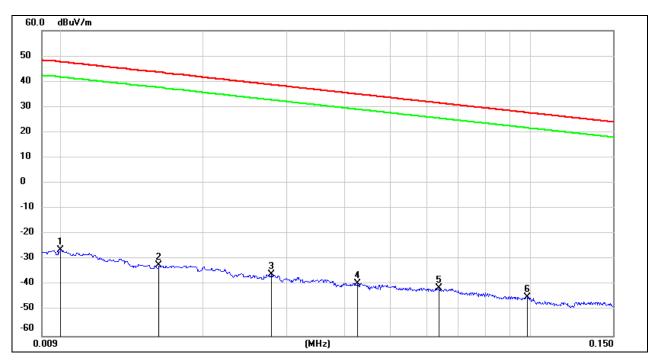
If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
Peak: Peak detector.

Note: All test modes had been tested, only the worst data record in the report.



# 7.6. SPURIOUS EMISSIONS BELOW 30MHz

#### SPURIOUS EMISSIONS (LOW CHANNEL, LOOP ANTENNA FACE ON TO THE EUT, WORST-CASE CONFIGURATION)



### <u>9kHz~ 150kHz</u>

No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.0100	75.22	-101.40	-26.18	47.6	-77.68	-3.90	-73.78	peak
2	0.0160	68.97	-101.37	-32.4	43.52	-83.90	-7.98	-75.92	peak
3	0.0279	65.67	-101.38	-35.71	38.69	-87.21	-12.81	-74.40	peak
4	0.0427	62.14	-101.45	-39.31	34.99	-90.81	-16.51	-74.30	peak
5	0.0636	60.31	-101.54	-41.23	31.53	-92.73	-19.97	-72.76	peak
6	0.0985	57.05	-101.78	-44.73	27.73	-96.23	-23.77	-72.46	peak

Note: 1. Measurement = Reading Level + Correct Factor.

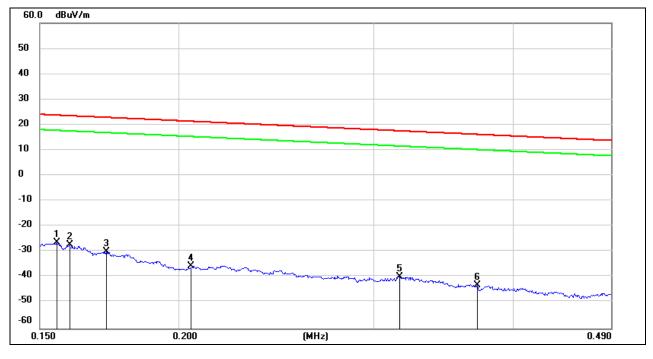
2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

4.  $dBuA/m = dBuV/m - 20log10(120\pi) = dBuV/m - 51.5$ .



#### <u>150kHz ~ 490kHz</u>



No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.1554	75.27	-101.65	-26.38	23.77	-77.88	-27.73	-50.15	peak
2	0.1595	74.36	-101.65	-27.29	23.55	-78.79	-27.95	-50.84	peak
3	0.1720	71.69	-101.67	-29.98	22.9	-81.48	-28.60	-52.88	peak
4	0.2053	66.29	-101.73	-35.44	21.35	-86.94	-30.15	-56.79	peak
5	0.3163	62.20	-101.87	-39.67	17.6	-91.17	-33.90	-57.27	peak
6	0.3714	58.78	-101.93	-43.15	16.2	-94.65	-35.30	-59.35	peak

Note: 1. Measurement = Reading Level + Correct Factor.

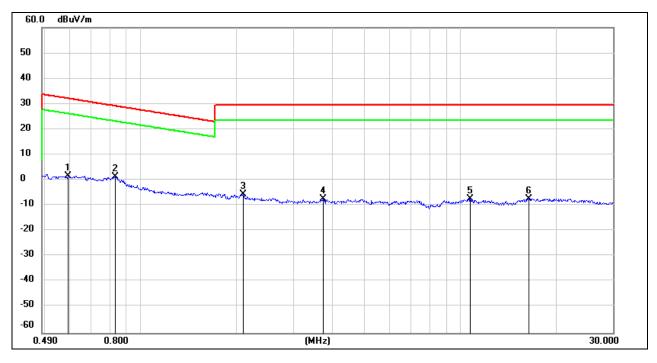
2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

4.  $dBuA/m = dBuV/m - 20log10(120\pi) = dBuV/m - 51.5$ .



#### <u>490kHz ~ 30MHz</u>



No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.5917	63.74	-62.08	1.66	32.16	-49.84	-19.34	-30.50	peak
2	0.8296	63.44	-62.17	1.27	29.23	-50.23	-22.27	-27.96	peak
3	2.0939	56.39	-61.79	-5.4	29.54	-56.90	-21.96	-34.94	peak
4	3.7100	54.20	-61.41	-7.21	29.54	-58.71	-21.96	-36.75	peak
5	10.7299	53.48	-60.83	-7.35	29.54	-58.85	-21.96	-36.89	peak
6	16.3959	53.67	-60.96	-7.29	29.54	-58.79	-21.96	-36.83	peak

Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

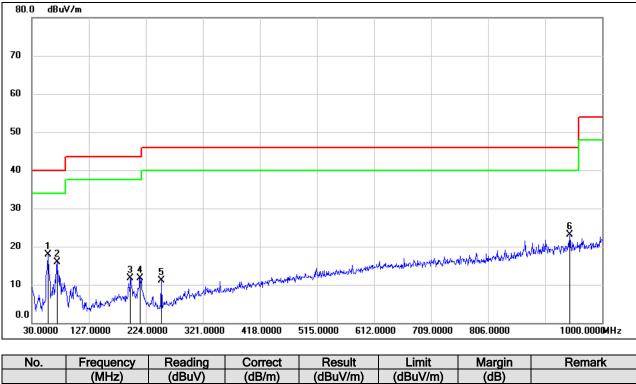
3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

4.  $dBuA/m = dBuV/m - 20log10(120\pi) = dBuV/m - 51.5$ .

Note: All test modes had been tested, only the worst data record in the report.

# 7.7. SPURIOUS EMISSIONS BELOW 1GHz AND ABOVE 30MHz

## SPURIOUS EMISSIONS (HIGH CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)



NO.	Frequency	Reading	Correct	Result	Limit	margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	57.1600	38.54	-20.58	17.96	40.00	-22.04	QP
2	72.6800	36.69	-20.76	15.93	40.00	-24.07	QP
3	197.8100	28.21	-16.41	11.80	43.50	-31.70	QP
4	214.3000	29.40	-17.66	11.74	43.50	-31.76	QP
5	250.1900	30.09	-18.91	11.18	46.00	-34.82	QP
6	944.7100	27.54	-4.46	23.08	46.00	-22.92	QP

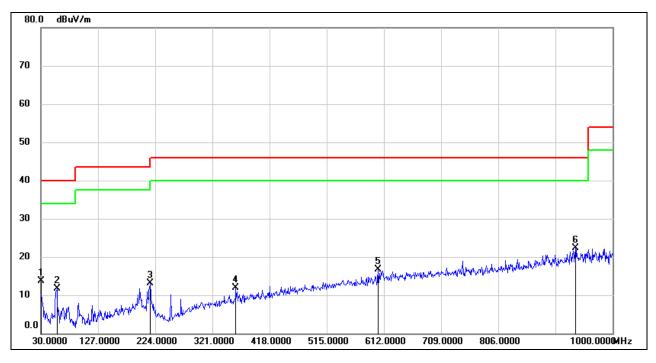
Note: 1. Result Level = Read Level + Correct Factor.

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.



## SPURIOUS EMISSIONS (HIGH CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	30.0000	32.73	-18.94	13.79	40.00	-26.21	QP
2	57.1600	32.19	-20.58	11.61	40.00	-28.39	QP
3	215.2700	30.89	-17.76	13.13	43.50	-30.37	QP
4	360.7700	25.98	-14.08	11.90	46.00	-34.10	QP
5	602.3000	26.21	-9.51	16.70	46.00	-29.30	QP
6	936.9500	26.87	-4.59	22.28	46.00	-23.72	QP

Note: 1. Result Level = Read Level + Correct Factor.

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

Note: All test modes had been tested, only the worst data record in the report.



# 8. ANTENNA REQUIREMENTS

# APPLICABLE REQUIREMENTS

# Please refer to FCC §15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

# Please refer to FCC §15.247(b)(4)

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

RESULTS Complies

# **END OF REPORT**