

CFR 47 FCC PART 15 SUBPART C

TEST REPORT

For

1/18 Scale Buggy/Dune Runner

MODEL NUMBER: VL-6022, VL-6023, VL-6021, GV-6218

FCC ID: 2ASK3GV-6218R

REPORT NUMBER: 4789553893.1-1

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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

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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. This report does not imply that the product(s) has met the criteria for certification.



Revision History

Rev.	Issue Date	Revisions	Revised By
V0	07/30/2020	Initial Issue	



Summary of Test Results				
Clause	Test Items	FCC/ISED Rules	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	
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: This is a copy report base on 4789436350-1 which is issued by UL Verification Services

(Guangzhou) Co., Ltd, Song Shan Lake Branch on April 16, 2020. It's only changes the standard from ISED RSS-210 Issue 10 and ISED RSS-GEN Issue 5 to CFR 47 FCC PART 15 SUBPART C and the product name, add new models for the FCC ID application.



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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:
Model:
Model difference:
Sample Received Date:
Sample Status:
Date of Tested:

1/18 Scale Buggy/Dune Runner VL-6022, VL-6023, VL-6021, GV-6218 See section 5.1 of this report for detail March 26, 2020 Normal March 26, 2020~ April 15, 2020

APPLICABLE STANDARDS

STANDARD

TEST RESULTS

CFR 47 FCC PART 15 SUBPART C

PASS

Prepared By:

Checked By:

henry ben

Shawn Wen Laboratory Leader

Andy Xiong Engineer Project Associate

Approved By:

AephenGuo

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, ANSI C63.10-2013, CFR 47 FCC PART 15 SUBPART C.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	 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) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320. 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.
	has been assessed and proved to be in compliance with VCCI, the
	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:

- 1. 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-18Gz)	
(1GHz to 26GHz) (include Fundamental emission)	5.23dB (18GHz-26Gz)	
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	1/18 Scale Buggy/Dune Runner		
EUT Description	The EUT is a wireless remote car.		
Model	VL-6022, VL-6023, VL-6021, GV-6218		
Model Difference	All the same except for the model name and color.		
Product Description	Operation Frequency	2407 MHz ~ 2477 MHz	
Product Description	Modulation Type GFSK		
Battery DC7.4V 1500mAh 11.1Wh			

5.2. MAXIMUM FIELD STRENGTH

Frequency (MHz)	Channel Number	Max Peak field strength (dBµV/m)
2477	4[4]	95.95

5.3. CHANNEL LIST

Channel	Frequency	
Channel	(MHz)	
1	2407	
2	2443	
3	2471	
4	2477	

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
1	2407~ 2477	Wire Antenna	0

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

5.5. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel	Frequency
GFSK	CH 1(Low Channel), CH 2(MID Channel), CH 4(High Channel)	2407MHz, 2443MHz, 2477MHz

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5.6. THE WORSE CASE POWER SETTING PARAMETER

The Wor	The Worse Case Power Setting Parameter under 2407 MHz ~ 2477 MHz Band					
Test Soft	ware Version		/			
Modulation Type	Transmit Antenna	Test Channel				
	Number	CH 1	CH 2	CH 4		
GFSK	1	Default	Default	Default		

5.7. TEST ENVIRONMENT

Environment Parameter	Selected Values During Tests				
Relative Humidity	55 ~ 65%				
Atmospheric Pressure:	1	1025Pa			
Temperature	TN	22 ~ 28°C			
	VL	/			
Voltage:	VN	DC 7.4V			
	VH	/			

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

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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							
	-		I	nstrumen	t			
Used	Equipment	Manufacturer	Мо	del No.	Serial No. Last Cal.		Next Cal.	
	MXE EMI Receiver	KESIGHT	N9038A		MY564	400036	Dec. 6, 2019	Dec. 6, 2020
V	Hybrid Log Periodic Antenna	TDK	HLP-3003C		130	959	Sept.17, 2018	Sept.17,2021
\checkmark	Preamplifier	HP	8	447D	2944A	09099	Dec. 5, 2019	Dec. 5, 2020
V	EMI Measurement Receiver	R&S	E	SR26	101	377	Dec. 05, 2019	Dec.05, 2020
\checkmark	Horn Antenna	TDK	HR	N-0118	130	939	Sept. 17, 2018	Sept.17,2021
V	Preamplifier	TDK	PA-02-0118			-305- 067	Dec. 05, 2019	Dec.05, 2020
\checkmark	Loop antenna	Schwarzbeck	1	519B	00	800	Jan.17, 2019	Jan.17, 2022
V	Preamplifier	TDK		02-001- 3000	-	-302- 050	Dec. 05, 2019	Dec.05, 2020
V	High Gain Horn Antenna	Schwarzbeck	BBH	IA-9170	6	91	Aug.11,2018	Aug.11,2021
V	Preamplifier	TDK	PÆ	\-02-2		-307- 003	Dec. 05, 2019	Dec.05, 2020
				Software				
Used	Descr	ription		Manufa	cturer		Name	Version
	Test Software disturl			Fara	ad EZ-EMC		EZ-EMC	Ver. UL-3A1
			Othe	r instrun	nents			
Used	Equipment	Manufacturer		del No.	Seria	al No.	Last Cal.	Next Cal.
V	High Pass Filter	Wi	WHKX10- 2700-3000- 18000-40SS		2	23	Dec. 05, 2019	Dec.05, 2020
V	Band Reject Filter	Wainwright	WRCJV8- 2350-2400- 2483.5- 2533.5-40SS			4	Dec. 05, 2019	Dec.05, 2020



6. ANTENNA PORT TEST RESULTS

6.1. ON TIME AND DUTY CYCLE

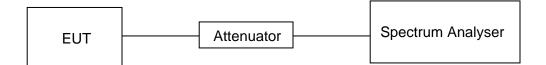
LIMITS

None; for reporting purposes only

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method

TEST SETUP



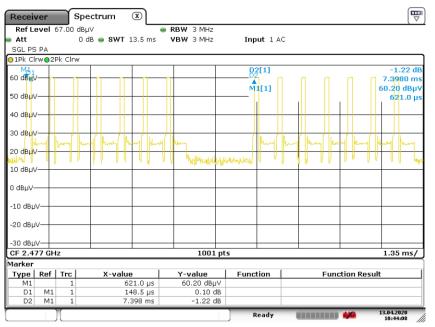
TEST ENVIRONMENT

Temperature	22.9°C	Relative Humidity	52%
Atmosphere Pressure	101kPa	Test Voltage	DC 7.4V

RESULTS

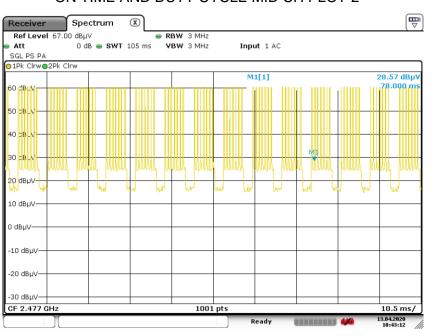
Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (db)
GFSK	14.553	100	0.1455	14.55	-16.74

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



ON TIME AND DUTY CYCLE MID CH PLOT

Date: 13.APR.2020 10:44:09



ON TIME AND DUTY CYCLE MID CH PLOT-2

Date: 13.APR.2020 10:43:12

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

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6.2. 20 dB BANDWIDTH AND 99% OCCUPIED BANDWIDTH

<u>LIMITS</u>

CFR 47 FCC Part15 (15.249) Subpart C RSS-Gen Issue 5					
Section Test Item Limit Frequency Rang (MHz)					
CFR 47 FCC §15.215 (c) 20dB Bandwidth for reporting purposes only 2400-2483.5					

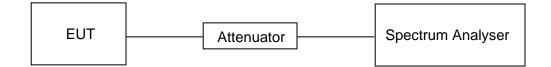
TEST PROCEDURE

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.

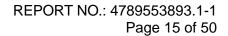
TEST SETUP



TEST ENVIRONMENT

Temperature	22.8°C	Relative Humidity	55%
Atmosphere Pressure	101kPa	Test Voltage	DC 7.4V

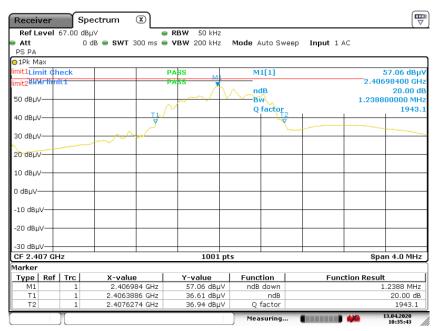
RESULTS





Frequency	20dB bandwidth	99% bandwidth	Result
(MHz)	(MHz)	(MHz)	
2407	1.239	2.170	PASS

20 dB BANDWIDTH LOW CH

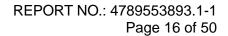


Date: 13.APR.2020 10:35:44

99% OCCUPIED BANDWIDTH LOW CH

Ref Level	67.00 de	auv.		BW 50 kHz			
Att				/BW 200 kHz	Mode Auto Swe	ep Input 1 AC	
PS PA	0	ub 🖶 3wi	300 IIIS 🚽 🕯	DW 200 KH2	Mode Auto Swe	ep input i Ac	
101 Max							
					M1[1]		57.08 dBµV
60 dBµV		_		M			2.40697600 GHz
					🔨 🔄 Occ Bw		2.169830170 MHz
50 dBµV		_	-	$h \sim h$	\sim \sim \sim \sim		
				1			
40 dBµV			TP -				12
		0.0			· · · · ·	-	V
30 dBµV							
20 dBuV							
10 dBµV							
0 dBµV							
-10 dBµV							
-20 dBuV							
-20 UBµV							
-30 dBµV							
CF 2.407 G	lz			1001 pt	s		Span 4.0 MHz
Aarker							
Type Ref	Trc	X-valu	e	Y-value	Function	Functi	on Result
M1	1	2.4069	76 GHz	57.08 dBµV			
Τ1	1	2.406380		34.94 dBµV	Occ Bw		2.16983017 MHz
T2	1	2.408550)45 GHz	34.12 dBµV			
	1				Measuring		13.04.2020 10:34:10

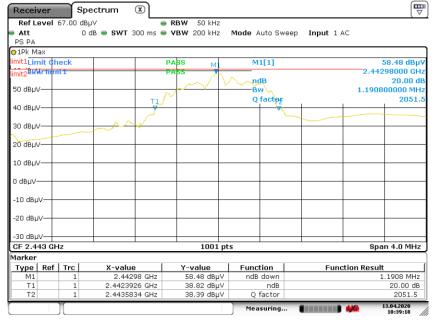
Date: 13.APR.2020 10:34:10





Frequency	20dB bandwidth	99% bandwidth	Result
(MHz)	(MHz)	(MHz)	
2443	1.191	2.278	PASS

20 dB BANDWIDTH MID CH



Date: 13.APR.2020 10:39:18

99% OCCUPIED BANDWIDTH MID CH

Ref Level		ectrum		RBW 50 kHz			(\Box
Att				/BW 200 kHz	Mode Auto Swee	ep Input 1 AC	
ALL PS PA	U		300 ms 🖶 🕻	APM 200 KHZ	MODE AUTO SWEE	sp input I AC	
1Pk Max							
				м	M1[1]		58.47 dBµV
60 dBµV		_					2.44298000 GHz
					Occ Bw		2.277722278 MHz
50 dBµV		-					
			T1				
40 dBµV			- Y		bry		T2 V
30 dBµV							
20 dBµV-							
10 dBµV—							
0 dBµV						_	
-10 dBµV—			-				
-20 dBµV-							
-30 dBµV							
CF 2.443 G	17			1001 pt			Span 4.0 MHz
Aarker	12			1001 p			3pan 4.0 MH2
	Trc	X-valı	I	Y-value	Function	Euncti	on Result
M1	1		298 GHz	58.47 dBµV	runction	runcu	on Rosuit
T1	1		006 GHz	40.16 dBµV	Occ Bw		2.277722278 MHz
T2	1	2.44467		35.99 dBµ∨			
	1				Measuring		13.04.2020

Date: 13.APR.2020 10:38:10

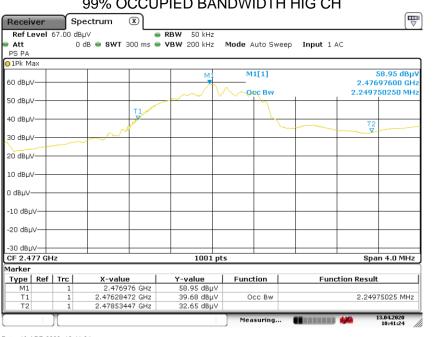


Frequency	20dB bandwidth	99% bandwidth	Result
(MHz)	(MHz)	(MHz)	
2477	1.355	2.250	PASS

20 dB BANDWIDTH HIG CH

Definition			×	BW 50 kHz				7]
Ref Level Att				BW 200 kHz	Name and a strategy			
PS PA	UC	ab 🖶 Swit a	300 ms 💻 🗸	BW 200 KHZ	Mode Auto	Sweep In	put IAC	
1Pk Max								
mit1Limit ch	eck		PA	SS MI	M1[1]			58.88 dBµ
mit2 ^{Bunder Imm}				55 ML	mili 1			2.47698000 GH
mit2								20.00 d
50 dBµV——				~~~ ·	Bw			1.354600000 MH
			T1		Q fact	or ₂		1828.
40 dBµV——			7					
		0.00						~
30 dBµV	-							
1								
20 dBµV								
10 dBµV								
о авиу								
-10 dBµV								
-20 dBµV								
-30 dBµV								
CF 2.477 GH	z			1001 pt	s			Span 4.0 MHz
1arker								
Type Ref		X-value		Y-value	Function		Function	
M1	1		98 GHz	58.88 dBµV	ndB dow			1.3546 MHz
T1	1	2.47626		38.74 dBµV	nd			20.00 dB
T2	1	2.47762	34 GHz	38.99 dBµV	Q facto	or		1828.5

Date: 13.APR.2020 10:42:40



99% OCCUPIED BANDWIDTH HIG CH

Date: 13.APR.2020 10:41:24



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 em	nissions 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 (94dBuV/m)	500 uV/m (54dBuV/m)	3
2400 - 2483.5	50 mV/m (94dBuV/m)	500 uV/m (54dBuV/m)	3
5725 – 5875	50 mV/m (94dBuV/m)	500 uV/m (54dBuV/m)	3

Emissions radi	ated outside of the specified frequer	ncy bands above 3	80MHz
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	4	0
88 - 216	150	43	3.5
216 - 960	200	4	6
Above 960	500	5	4
Above 1000	500	Peak	Average
	500	74	54

FCC Emissi	ons radiated outside of the specified fre	equency 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

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ISED General field strength limits at frequencies below 30 MHz

	Table 6 – General field strength limits at freq	uencies below 30 MHz
Frequency	Magnetic field strength (H-Field) (µA/m)	Measurement distance (m)
9 - 490 kHz ^{Note 1}	6.37/F (F in kHz)	300
490 - 1705 kHz	63.7/F (F in kHz)	30
1.705 - 30 MHz	0.08	30

Note 1: The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

IC Restricted bands please refer to ISED RSS-GEN Clause 8.10

MHz	MHz	GHz
0.090 - 0.110	149.9 - 150.05	9.0 - 9.2
0.495 - 0.505	156.52475 - 156.52525	9.3 - 9.5
2.1735 - 2.1905	156.7 - 156.9	10.6 - 12.7
3.020 - 3.026	162.0125 - 167.17	13.25 - 13.4
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5
4.17725 - 4.17775	240 - 285	15.35 - 16.2
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4
5.677 - 5.683	399.9 - 410	22.01 - 23.12
6.215 - 6.218	608 - 614	23.6 - 24.0
5.26775 - 6.26825	960 - 1427	31.2 - 31.8
3.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
3.291 - 8.294	1645.5 - 1646.5	Above 38.6
3.362 - 8.366	1660 - 171D	
3.37625 - 8.38675	1718.8 - 1722.2	
3.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 - 2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 - 13.41	3260 - 3267	
16.42 - 16.423	3332 - 3339	
16.69475 - 16.69525	3345.8 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 - 8500	

Note 1: Certain frequency bands listed in table 7 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.



FCC Restricted bands of operation:

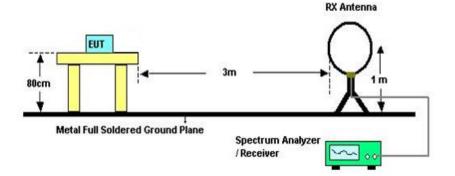
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	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	(²)
13.36-13.41			

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



TEST SETUP AND PROCEDURE

Below 30MHz



The setting of the spectrum analyser

RBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
VBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
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.

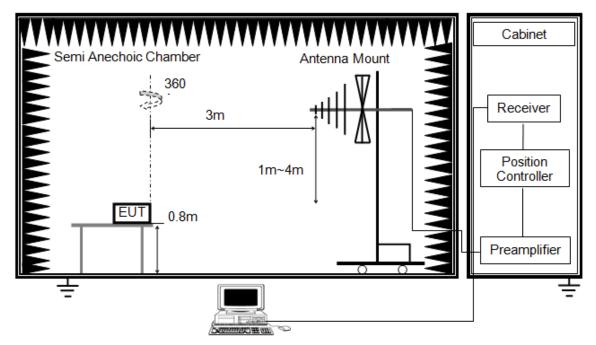
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1m height antenna tower.

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 1000MHz. 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 1G



The setting of the spectrum analyser

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

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

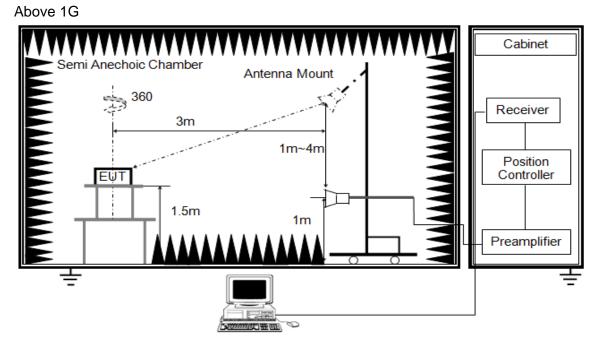
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations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





The setting of the spectrum analyser

RBW	1M
NBW	PEAK: 3M AVG: see note 6
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.

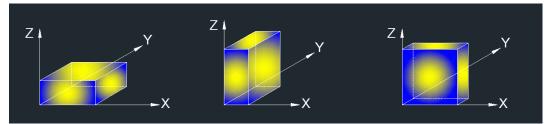
3. The EUT was placed on a turntable with 150cm above ground.

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.



X axis, Y axis, Z axis positions:



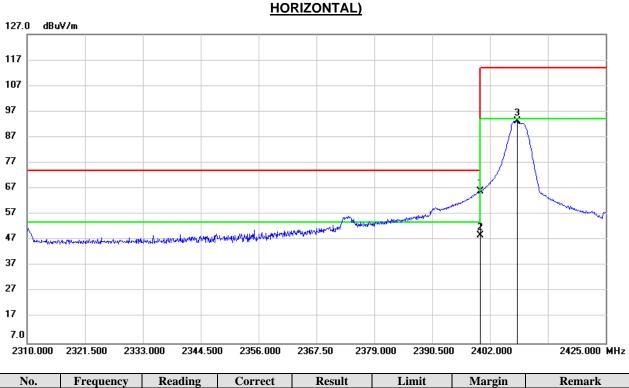
Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

TEST ENVIRONMENT

Temperature	22.7°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.0V

7.2. RESTRICTED BANDEDGE AND FIELD STRENGTH OF INTENTIONAL EMISSIONS

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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2400.000	32.97	32.98	65.95	74.00	-8.05	peak
2	2400.000	15.92	32.98	49.21	54.00	-4.79	AVG
3	2407.405	60.17	33.03	93.20	114.00	-20.80	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.

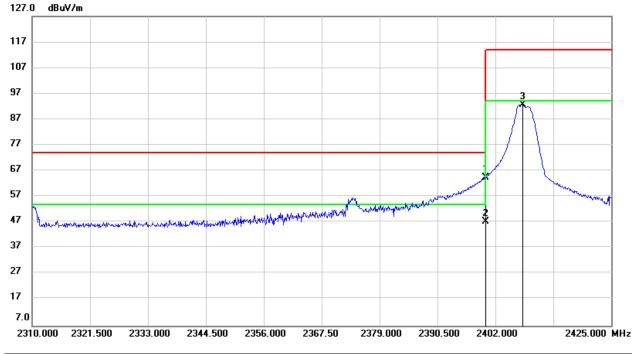
4. AVG Result=Peak Result + Duty Correction Factor.

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

6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



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	2400.000	31.45	32.98	64.43	74.00	-9.57	peak
2	2400.000	14.40	32.98	47.69	54.00	-6.31	AVG
3	2407.405	59.68	33.03	92.71	114.00	-21.29	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.

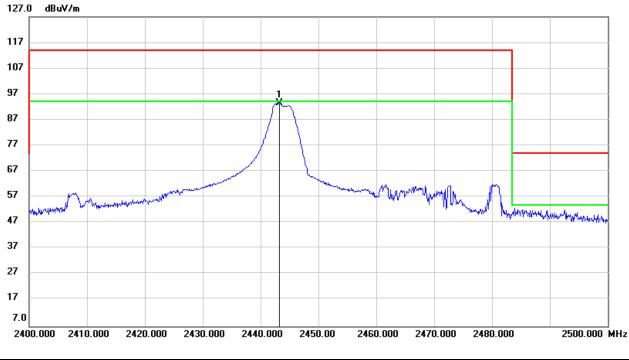
4. AVG Result=Peak Result + Duty Correction Factor.

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

6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



FIELD STRENGTH OF INTENTIONAL EMISSIONS (MIDDLE CHANNEL, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2443.300	60.14	33.29	93.43	114.00	-20.57	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.

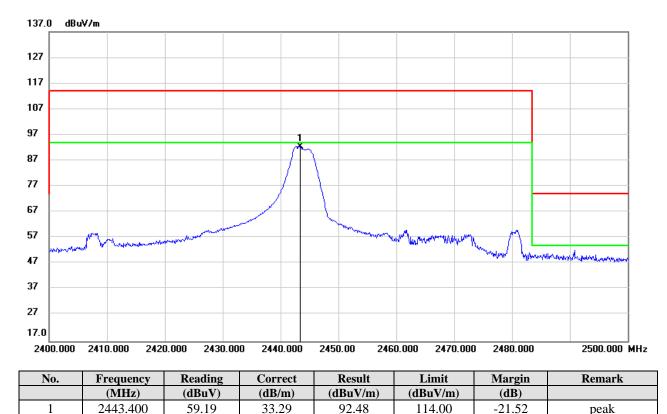
4. AVG Result=Peak Result + Duty Correction Factor.

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

6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



FIELD STRENGTH OF INTENTIONAL EMISSIONS (MIDDLE CHANNEL, VERTICAL)



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

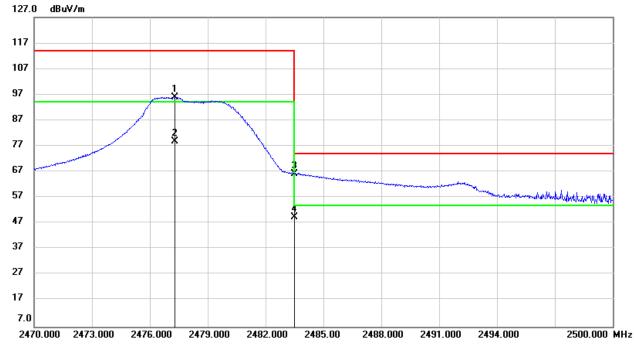
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Only the worst emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



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	2477.290	62.41	33.54	95.95	114.00	-18.05	peak
2	2477.290	45.36	33.54	79.21	94.00	-14.79	AVG
3	2483.500	32.81	33.58	66.39	74.00	-7.61	peak
4	2483.500	15.76	33.58	49.65	54	-4.35	AVG

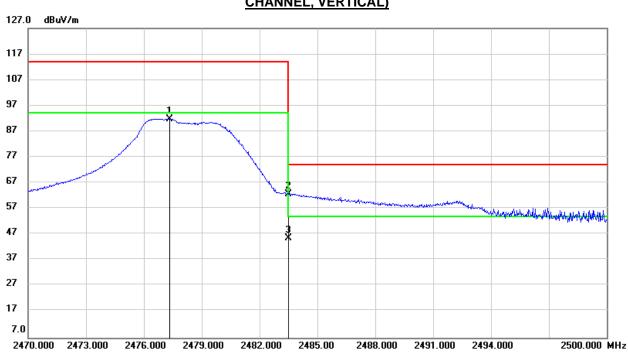
Note: 1. Measurement = Reading Level + Correct Factor.

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

3. Peak: Peak detector.

4. Only the worst emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





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

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2477.320	58.24	33.54	91.78	114.00	-22.22	peak
2	2483.500	28.98	33.58	62.56	74.00	-11.44	peak
3	2483.500	11.93	33.58	45.82	54.00	-8.18	AVG

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

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

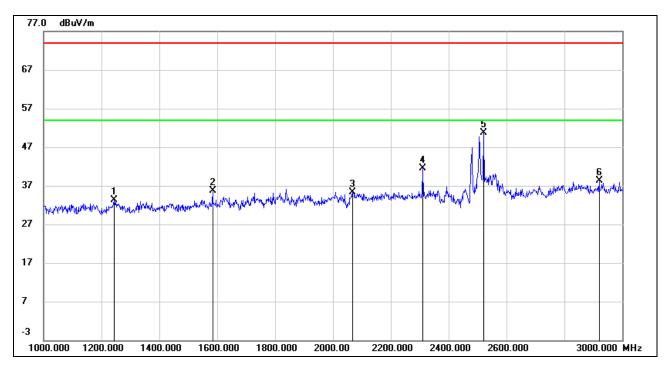
3. Peak: Peak detector.

4. Only the worst emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



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	1244.000	45.92	-12.53	33.39	74.00	-40.61	peak
2	1584.000	47.22	-11.53	35.69	74.00	-38.31	peak
3	2068.000	44.77	-9.37	35.40	74.00	-38.60	peak
4	2310.000	49.57	-8.16	41.41	74.00	-32.59	peak
5	2520.000	58.05	-7.27	50.78	74.00	-23.22	peak
6	2920.000	43.81	-5.48	38.33	74.00	-35.67	peak

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

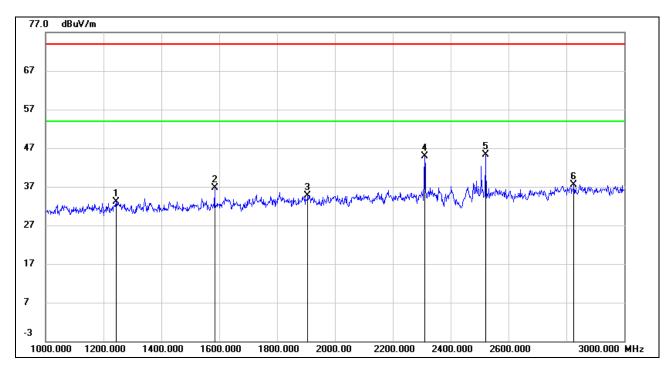
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

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







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1244.000	45.72	-12.53	33.19	74.00	-40.81	peak
2	1584.000	48.24	-11.53	36.71	74.00	-37.29	peak
3	1906.000	44.66	-9.94	34.72	74.00	-39.28	peak
4	2310.000	53.09	-8.16	44.93	74.00	-29.07	peak
5	2520.000	52.62	-7.27	45.35	74.00	-28.65	peak
6	2826.000	43.41	-5.92	37.49	74.00	-36.51	peak

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

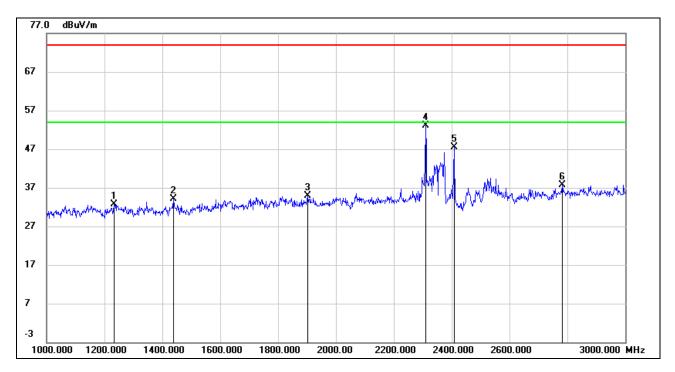
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in then spurious frequency bands and the authorized band was not corrected for BRF 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	1232.000	45.36	-12.57	32.79	74.00	-41.21	peak
2	1438.000	46.52	-12.32	34.20	74.00	-39.80	peak
3	1902.000	44.80	-9.94	34.86	74.00	-39.14	peak
4	2310.000	61.25	-8.16	53.09	74.00	-20.91	peak
5	2408.000	55.38	-7.80	47.58	74.00	-26.42	peak
6	2782.000	44.04	-6.25	37.79	74.00	-36.21	peak

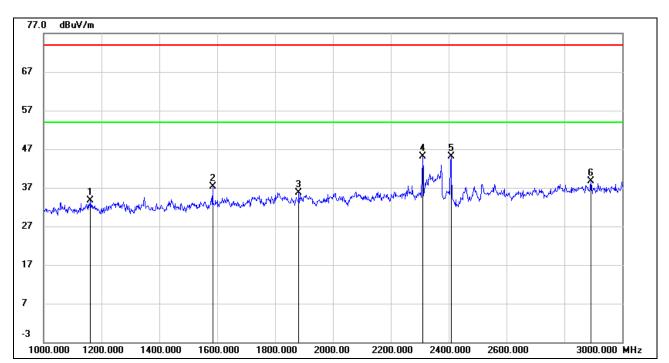
Note: 1. Peak Result = Reading Level + Correct Factor.

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 then spurious frequency bands and the authorized band was not corrected for BRF losses.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1162.000	46.62	-13.00	33.62	74.00	-40.38	peak
2	1584.000	48.76	-11.53	37.23	74.00	-36.77	peak
3	1882.000	45.70	-9.95	35.75	74.00	-38.25	peak
4	2310.000	53.32	-8.16	45.16	74.00	-28.84	peak
5	2408.000	52.85	-7.80	45.05	74.00	-28.95	peak
6	2892.000	44.29	-5.57	38.72	74.00	-35.28	peak

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

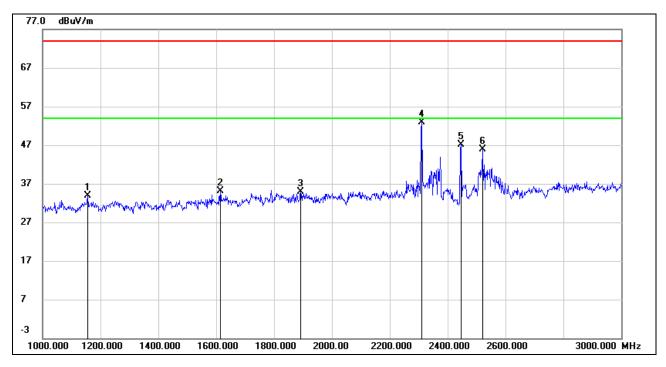
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

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







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1156.000	47.00	-13.05	33.95	74.00	-40.05	peak
2	1614.000	46.51	-11.33	35.18	74.00	-38.82	peak
3	1892.000	44.84	-9.95	34.89	74.00	-39.11	peak
4	2310.000	60.97	-8.16	52.81	74.00	-21.19	peak
5	2446.000	54.58	-7.54	47.04	74.00	-26.96	peak
6	2520.000	53.11	-7.27	45.84	74.00	-28.16	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 then spurious frequency bands and the authorized band was not corrected for BRF losses.



1000.000

6

1200.000

2868.000

1400.000

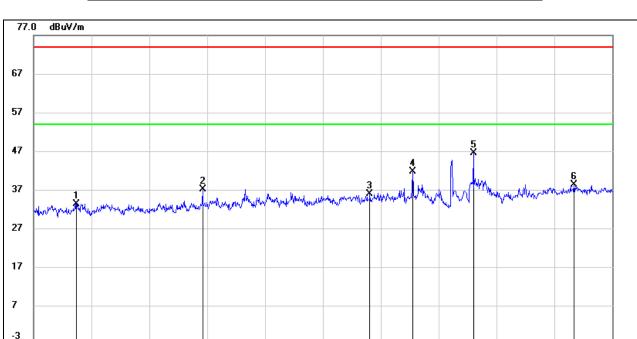
1600.000

1800.000

-5.70

3000.000 MHz

peak



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1148.000	46.50	-13.11	33.39	74.00	-40.61	peak
2	1584.000	48.61	-11.53	37.08	74.00	-36.92	peak
3	2162.000	44.71	-8.85	35.86	74.00	-38.14	peak
4	2310.000	49.89	-8.16	41.73	74.00	-32.27	peak
5	2520.000	53.86	-7.27	46.59	74.00	-27.41	peak

2000.00

2200.000

2400.000

74.00

2600.000

-35.65

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

44.05

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

38.35

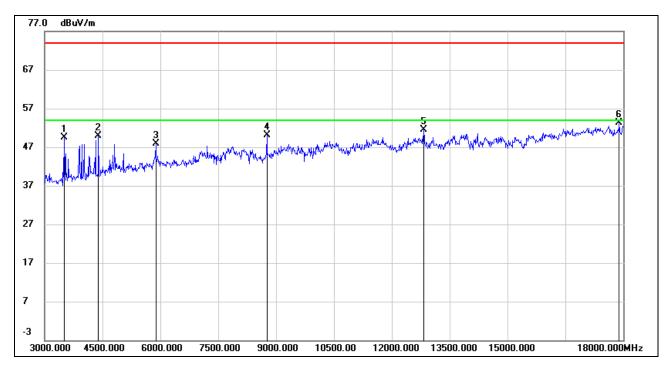
3. Peak: Peak detector.

4. Filter losses were only considered in then spurious frequency bands and the authorized band was not corrected for BRF 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	3510.000	53.49	-3.93	49.56	74.00	-24.44	peak
2	4395.000	51.69	-1.73	49.96	74.00	-24.04	peak
3	5880.000	43.25	4.59	47.84	74.00	-26.16	peak
4	8760.000	42.34	7.84	50.18	74.00	-23.82	peak
5	12825.000	36.05	15.48	51.53	74.00	-22.47	peak
6	17895.000	29.96	23.34	53.30	74.00	-20.70	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.

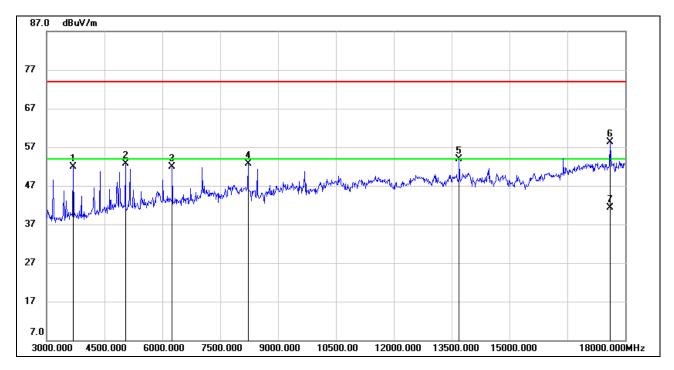
J. Feak. Feak delector.

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.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

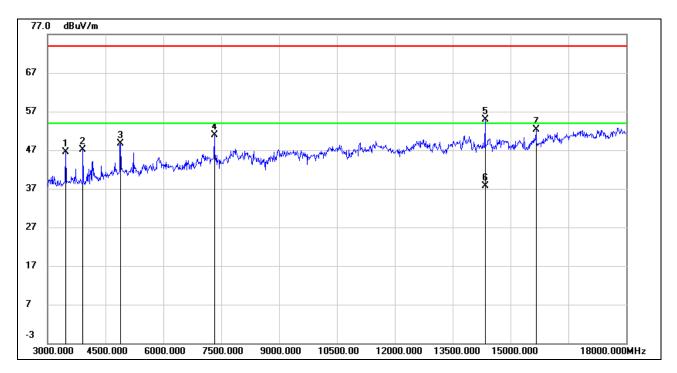


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3690.000	54.77	-2.81	51.96	74.00	-22.04	peak
2	5040.000	51.17	1.46	52.63	74.00	-21.37	peak
3	6255.000	48.03	3.83	51.86	74.00	-22.14	peak
4	8220.000	44.56	8.22	52.78	74.00	-21.22	peak
5	13695.000	37.97	15.87	53.84	74.00	-20.16	peak
6	17610.000	36.52	21.86	58.38	74.00	-15.62	peak
7	17610.000	19.47	21.86	41.33	54.00	-12.67	AVG

- 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 Cycle Correction Factor.
- 5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.
- 6. The High Pass filter loss factor already add into the correct factor.
- 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



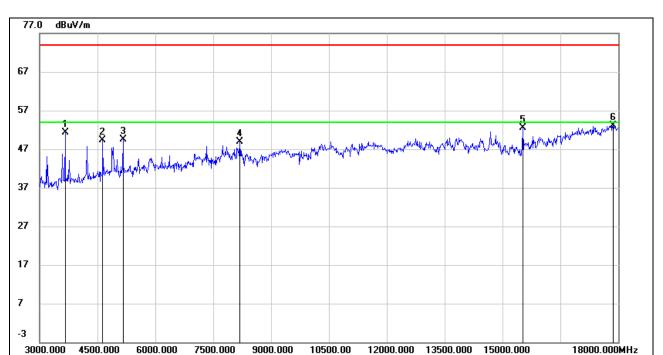
HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3465.000	50.70	-4.12	46.58	74.00	-27.42	peak
2	3915.000	50.01	-2.93	47.08	74.00	-26.92	peak
3	4890.000	47.94	0.82	48.76	74.00	-25.24	peak
4	7320.000	44.84	6.14	50.98	74.00	-23.02	peak
5	14340.000	38.54	16.27	54.81	74.00	-19.19	peak
6	14340.000	21.49	16.27	38.07	54.00	-15.93	AVG
7	15660.000	35.53	16.80	52.33	74.00	-21.67	peak

- 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 Cycle Correction Factor.
- 5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.
- 6. The High Pass filter loss factor already add into the correct factor.
- 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.





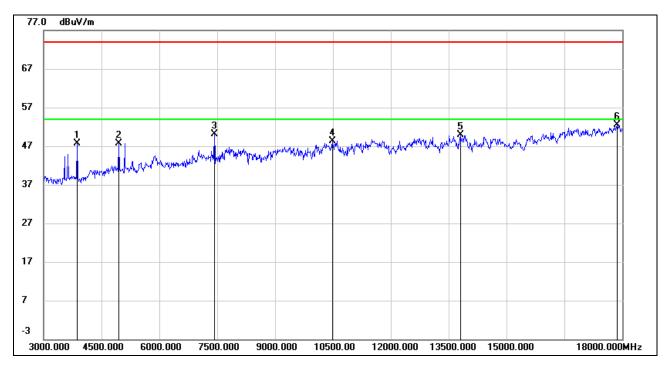
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No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3660.000	54.28	-3.05	51.23	74.00	-22.77	peak
2	4635.000	49.42	-0.21	49.21	74.00	-24.79	peak
3	5160.000	47.47	2.00	49.47	74.00	-24.53	peak
4	8190.000	40.63	8.36	48.99	74.00	-25.01	peak
5	15525.000	36.03	16.43	52.46	74.00	-21.54	peak
6	17865.000	29.77	23.33	53.10	74.00	-20.90	peak

- 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 Cycle Correction Factor.
- 5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.
- 6. The High Pass filter loss factor already add into the correct factor.
- 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



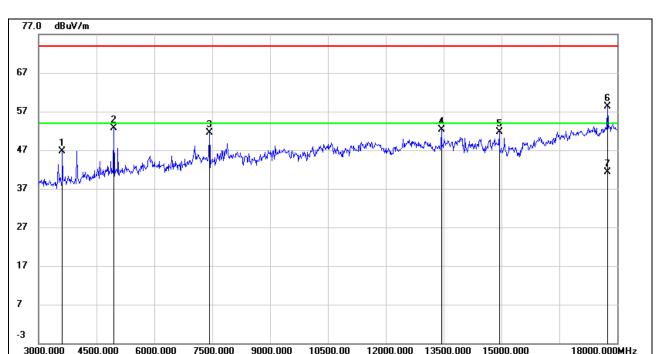




No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3870.000	50.52	-2.90	47.62	74.00	-26.38	peak
2	4950.000	46.64	1.13	47.77	74.00	-26.23	peak
3	7425.000	43.71	6.39	50.10	74.00	-23.90	peak
4	10485.000	36.97	11.32	48.29	74.00	-25.71	peak
5	13800.000	32.72	17.10	49.82	74.00	-24.18	peak
6	17865.000	29.14	23.33	52.47	74.00	-21.53	peak

- 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 Cycle Correction Factor.
- 5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.
- 6. The High Pass filter loss factor already add into the correct factor.
- 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.





HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

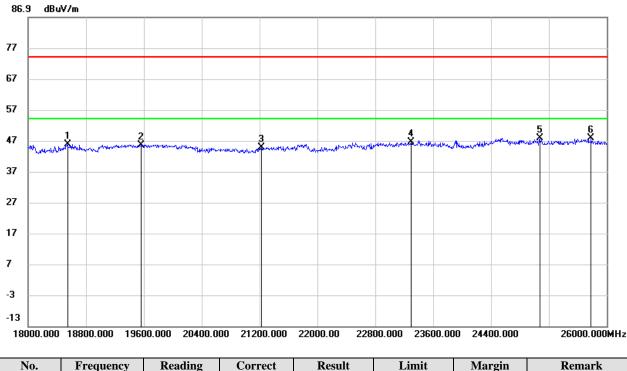
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3615.000	50.15	-3.40	46.75	74.00	-27.25	peak
2	4950.000	51.56	1.13	52.69	74.00	-21.31	peak
3	7425.000	45.19	6.39	51.58	74.00	-22.42	peak
4	13440.000	36.40	15.98	52.38	74.00	-21.62	peak
5	14940.000	35.71	16.00	51.71	74.00	-22.29	peak
6	17745.000	35.47	22.82	58.29	74.00	-15.71	peak
7	17745.000	18.42	22.82	41.55	54.00	-12.45	AVG

- 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 Cycle Correction Factor.
- 5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.
- 6. The High Pass filter loss factor already add into the correct factor.
- 7. 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)



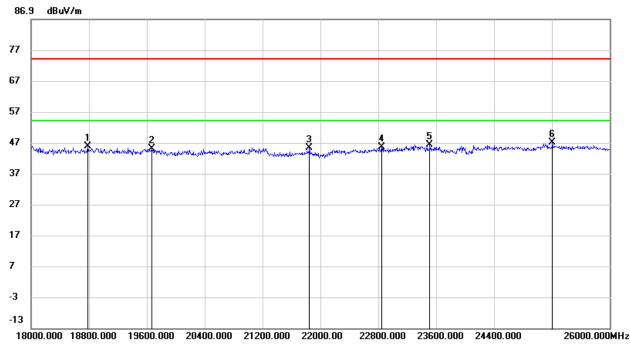
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18544.000	50.26	-4.46	45.80	74.00	-28.20	peak
2	19560.000	50.31	-4.69	45.62	74.00	-28.38	peak
3	21224.000	50.35	-5.47	44.88	74.00	-29.12	peak
4	23296.000	51.80	-5.16	46.64	74.00	-27.36	peak
5	25072.000	48.98	-1.11	47.87	74.00	-26.13	peak
6	25784.000	49.23	-1.49	47.74	74.00	-26.26	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.



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	18784.000	50.55	-4.84	45.71	74.00	-28.29	peak
2	19672.000	49.45	-4.48	44.97	74.00	-29.03	peak
3	21848.000	51.26	-5.95	45.31	74.00	-28.69	peak
4	22848.000	51.10	-5.69	45.41	74.00	-28.59	peak
5	23512.000	51.01	-4.76	46.25	74.00	-27.75	peak
6	25208.000	48.13	-1.16	46.97	74.00	-27.03	peak

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

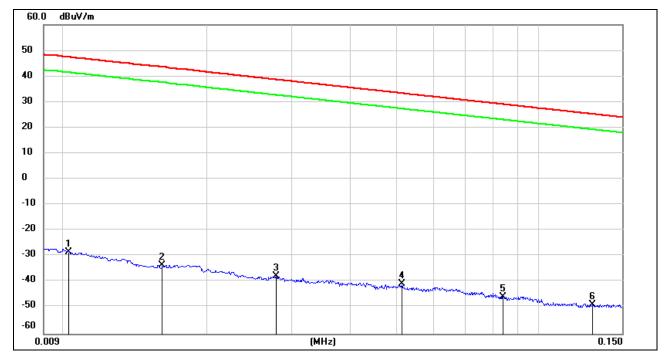
If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 Peak: Peak detector.

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	Result	Limit	ISED	ISED	Margin	Remark
						Result	Limit		
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.0102	73.05	-101.40	-28.35	47.43	-79.85	-4.07	-75.78	peak
2	0.0160	67.97	-101.37	-33.40	43.52	-84.9	-7.98	-76.92	peak
3	0.0279	63.67	-101.38	-37.71	38.69	-89.21	-12.81	-76.40	peak
4	0.0514	60.68	-101.48	-40.80	33.38	-92.3	-18.12	-74.18	peak
5	0.0840	56.01	-101.67	-45.66	29.12	-97.16	-22.38	-74.78	peak
6	0.1300	52.93	-101.70	-48.77	25.33	-100.27	-26.17	-74.10	peak

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

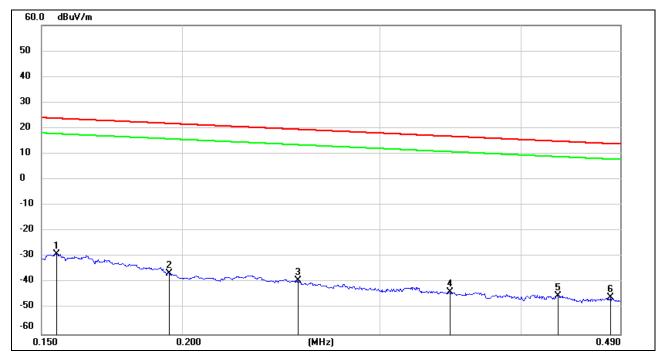
2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

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	Result	Limit	ISED	ISED	Margin	Remark
						Result	Limit		
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.1547	72.81	-101.65	-28.84	23.81	-80.34	-27.69	-52.65	peak
2	0.1948	65.25	-101.71	-36.46	21.81	-87.96	-29.69	-58.27	peak
3	0.2534	62.64	-101.80	-39.16	19.53	-90.66	-31.97	-58.69	peak
4	0.3462	58.24	-101.90	-43.66	16.82	-95.16	-34.68	-60.48	peak
5	0.4314	56.97	-101.99	-45.02	14.90	-96.52	-36.6	-59.92	peak
6	0.4803	56.18	-102.04	-45.86	13.97	-97.36	-37.53	-59.83	peak

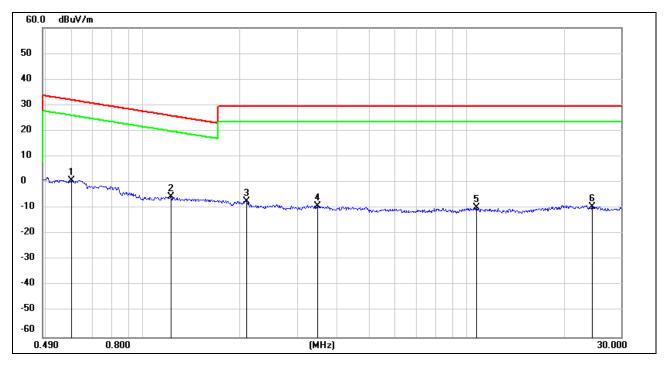
Note: 1. Measurement = Reading Level + Correct Factor.

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

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



No.	Frequency	Reading	Correct	Result	Limit	ISED	ISED	Margin	Remark
						Result	Limit		
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.6018	62.76	-62.08	0.68	32.01	-50.82	-19.49	-31.33	peak
2	1.2214	56.62	-62.16	-5.54	25.87	-57.04	-25.63	-31.41	peak
3	2.0853	54.57	-61.80	-7.23	29.54	-58.73	-21.96	-36.77	peak
4	3.4704	52.35	-61.46	-9.11	29.54	-60.61	-21.96	-38.65	peak
5	10.7299	50.98	-60.83	-9.85	29.54	-61.35	-21.96	-39.39	peak
6	24.5106	51.08	-60.49	-9.41	29.54	-60.91	-21.96	-38.95	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.

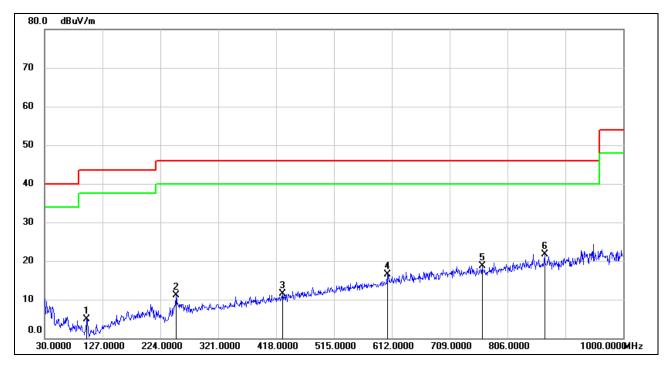
3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

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 (LOW CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dB)	
1	100.8100	26.55	-21.71	4.84	43.50	-38.66	QP
2	250.1900	27.47	-16.34	11.13	46.00	-34.87	QP
3	428.6700	23.61	-12.17	11.44	46.00	-34.56	QP
4	604.2400	25.42	-8.85	16.57	46.00	-29.43	QP
5	763.3200	24.80	-6.06	18.74	46.00	-27.26	QP
6	868.0800	26.36	-4.67	21.69	46.00	-24.31	QP

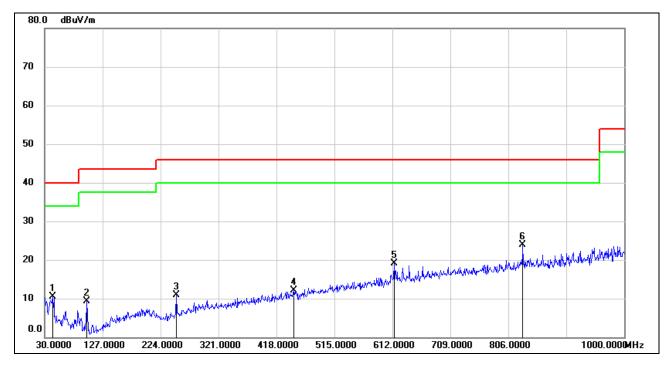
Note: 1. Result Level = Read Level + Correct Factor.

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 (LOW CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB / m)	(dBuV/m)	(dBuV/m)	(dB)	
1	43.5800	28.53	-17.97	10.56	40.00	-29.44	QP
2	100.8100	31.11	-21.71	9.40	43.50	-34.10	QP
3	250.1900	27.24	-16.34	10.90	46.00	-35.10	QP
4	447.1000	23.94	-11.87	12.07	46.00	-33.93	QP
5	614.9099	27.68	-8.59	19.09	46.00	-26.91	QP
6	830.2500	29.06	-5.11	23.95	46.00	-22.05	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