



**CO-LOCATION TEST REPORT**

*For*

**Children watch**

**MODEL NUMBER: CP303C**

**FCC ID: R38YL303C**

**REPORT NUMBER: 4789488320-7**

**ISSUE DATE: August 14, 2020**

*Prepared for*

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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V0	08/14/2020	Initial Issue	



## TABLE OF CONTENTS

<b>1. ATTESTATION OF TEST RESULTS .....</b>	<b>4</b>
<b>2. FACILITIES AND ACCREDITATION .....</b>	<b>5</b>
<b>3. MEASUREMENT UNCERTAINTY.....</b>	<b>6</b>
<b>4. EQUIPMENT UNDER TEST .....</b>	<b>7</b>
4.1. <i>DESCRIPTION OF EUT</i> .....	7
4.2. <i>THE TEST CASE CONFIGURATIONS</i> .....	7
<b>5. MEASURING INSTRUMENT AND SOFTWARE USED .....</b>	<b>8</b>
<b>6. RADIATED TEST RESULTS.....</b>	<b>9</b>
6.1. <i>WORST-CASE CO-LOCATION</i> .....	11
6.1.1. Condition 1 .....	11



## 1. ATTESTATION OF TEST RESULTS

### Applicant Information

Company Name: Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd  
Address: Building B, Boton Science Park, Chaguang Road, Xili Town, Nanshan District, Shenzhen

### Manufacturer Information

Company Name: Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd  
Address: Building B, Boton Science Park, Chaguang Road, Xili Town, Nanshan District, Shenzhen

### EUT Description

Product Name Children watch  
Model Name CP303C  
Brand Coolpad  
Sample Status Normal  
Sample ID /  
Sample Received date April 28, 2020  
Date Tested April 30, 2020 ~ May 25, 2020

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## 2. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p><b>A2LA (Certificate No.: 4102.01)</b> UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</p> <p><b>FCC (FCC Designation No.: CN1187)</b> 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</p> <p><b>ISED (Company No.: 21320)</b> 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.</p> <p><b>VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)</b> 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</p>
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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

Note 2: 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.

Note 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.



### 3. 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
Radiated Emission (Included Fundamental Emission) (9kHz ~ 30MHz)	2.2dB
Radiated Emission (Included Fundamental Emission) (30MHz ~ 1GHz)	4.00dB
Radiated Emission (Included Fundamental Emission) (1GHz to 40GHz)	5.78dB (1GHz ~ 18GHz)
	5.23dB (18GHz ~ 26GHz)
	5.64dB (26GHz-40GHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	



## 4. EQUIPMENT UNDER TEST

### 4.1. DESCRIPTION OF EUT

EUT Name	Children watch
Model for USA	CP303C

### 4.2. THE TEST CASE CONFIGURATIONS

Simultaneously transmission condition.

NO.	Combination	Support (YES/NO)
1	UMTS+2.4GHz Wi-Fi	YES
2	UMTS+BT	YES
3	LTE+2.4GHz Wi-Fi	YES
4	LTE+BT	YES

For the detailed test description, please refer to the below report number.

Technology	Report Number
UMTS	4789488320-4
LTE	4789488320-5
WIFI	4789488320-3
BT	4789488320-2
BLE	4789488320-1



## 5. MEASURING INSTRUMENT AND SOFTWARE USED

Radiated Emissions						
Instrument						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
<input checked="" type="checkbox"/>	MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Dec.06,2019	Dec.06,2020
<input checked="" type="checkbox"/>	Hybrid Log Periodic Antenna	TDK	HLP-3003C	130960	Sep.17, 2018	Sep.17, 2021
<input checked="" type="checkbox"/>	Preamplifier	HP	8447D	2944A09099	Dec.05,2019	Dec.05,2020
<input checked="" type="checkbox"/>	EMI Measurement Receiver	R&S	ESR26	101377	Dec.05,2019	Dec.05,2020
<input checked="" type="checkbox"/>	Horn Antenna	TDK	HRN-0118	130939	Sep.17, 2018	Sep.17, 2021
<input checked="" type="checkbox"/>	High Gain Horn Antenna	Schwarzbeck	BBHA-9170	691	Aug.11, 2018	Aug.11, 2021
<input checked="" type="checkbox"/>	Preamplifier	TDK	PA-02-0118	TRS-305-00066	Dec.05,2019	Dec.05,2020
<input checked="" type="checkbox"/>	Preamplifier	TDK	PA-02-2	TRS-307-00003	Dec.05,2019	Dec.05,2020
<input checked="" type="checkbox"/>	Preamplifier	TDK	PA-02-3	TRS-308-00002	Dec.05,2019	Dec.05,2020
<input checked="" type="checkbox"/>	Band Reject Filter	Wainwright	WRCJV12-5695-5725-5850-5880-40SS	4	Dec.05,2019	Dec.05,2020
<input checked="" type="checkbox"/>	Band Reject Filter	Wainwright	WRCJV20-5120-5150-5350-5380-60SS	2	Dec.05,2019	Dec.05,2020
<input checked="" type="checkbox"/>	High Pass Filter	Wainwright	WHKX10-5850-6500-1800-40SS	4	Dec.05,2019	Dec.05,2020
<input checked="" type="checkbox"/>	Band Reject Filter	Wainwright	WRCJV8-2350-2400-2483.5-2533.5-40SS	4	Dec.05,2019	Dec.05,2020
<input checked="" type="checkbox"/>	High Pass Filter	Wi	WHKX10-2700-3000-18000-40SS	23	Dec.05,2019	Dec.05,2020

Software				
Used	Description	Manufacturer	Name	Version
<input checked="" type="checkbox"/>	Test Software for Radiated disturbance	Farad	EZ-EMC	Ver. UL-3A1



## 6. RADIATED TEST RESULTS

### LIMITS

Refer to CFR 47 FCC §15.205, §15.209 and §15.407 (b).

Refer to ISED RSS-GEN Clause 8.9, Clause 8.10 and ISED RSS-247 6.2.

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

Limits of unwanted/undesirable emission out of the restricted bands refer to CFR 47 FCC §15.407 (b) and ISED RSS-247 6.2.

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1GHz)		
Frequency Range (MHz)	EIRP Limit	Field Strength Limit (dBuV/m) at 3 m
5150~5250 MHz	PK: -27 (dBm/MHz)	PK:68.2(dBμV/m)
5250~5350 MHz		
5470~5725 MHz		
5725~5850 MHz	PK: -27 (dBm/MHz) *1 PK: 10 (dBm/MHz) *2 PK: 15.6 (dBm/MHz) *3 PK: 27 (dBm/MHz) *4	PK: 68.2(dBμV/m) *1 PK: 105.2 (dBμV/m) *2 PK: 110.8(dBμV/m) *3 PK: 122.2 (dBμV/m) *4

**Note:**

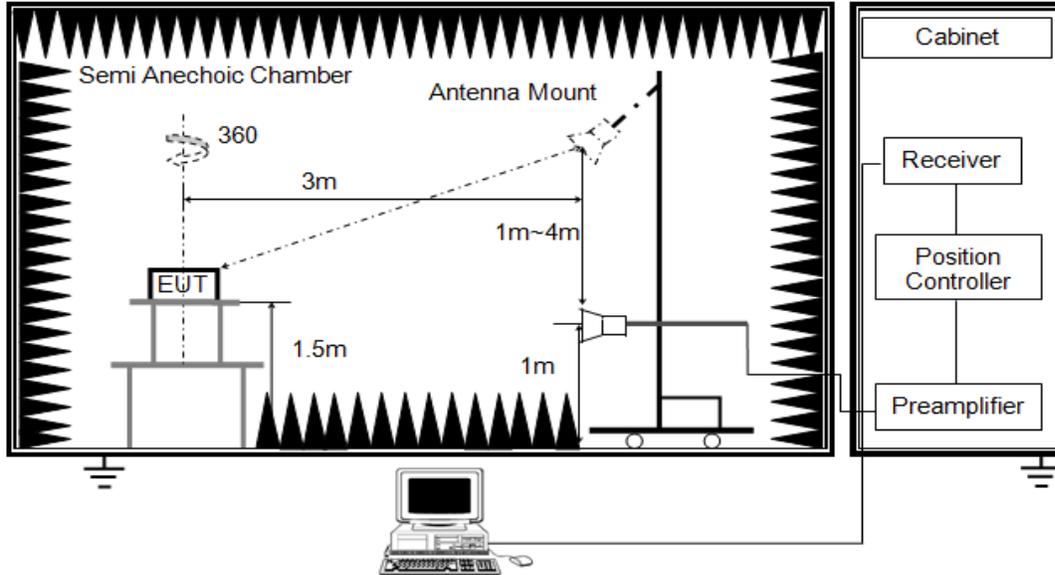
\*1 beyond 75 MHz or more above of the band edge.

\*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

\*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

\*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Above 1GHz



The setting of the spectrum analyser

RBW	1MHz
VBW	PEAK: 3MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 11.11 and 11.12.
2. The testing follows the guidelines in KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.G.3 ~ II.G.6.
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 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 1.5m 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 measurement above 1GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.
6. 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 and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements.

**TEST ENVIRONMENT**

Temperature	23.4°C	Relative Humidity	57%
Atmosphere Pressure	101kPa	Test Voltage	AC120V,60HZ



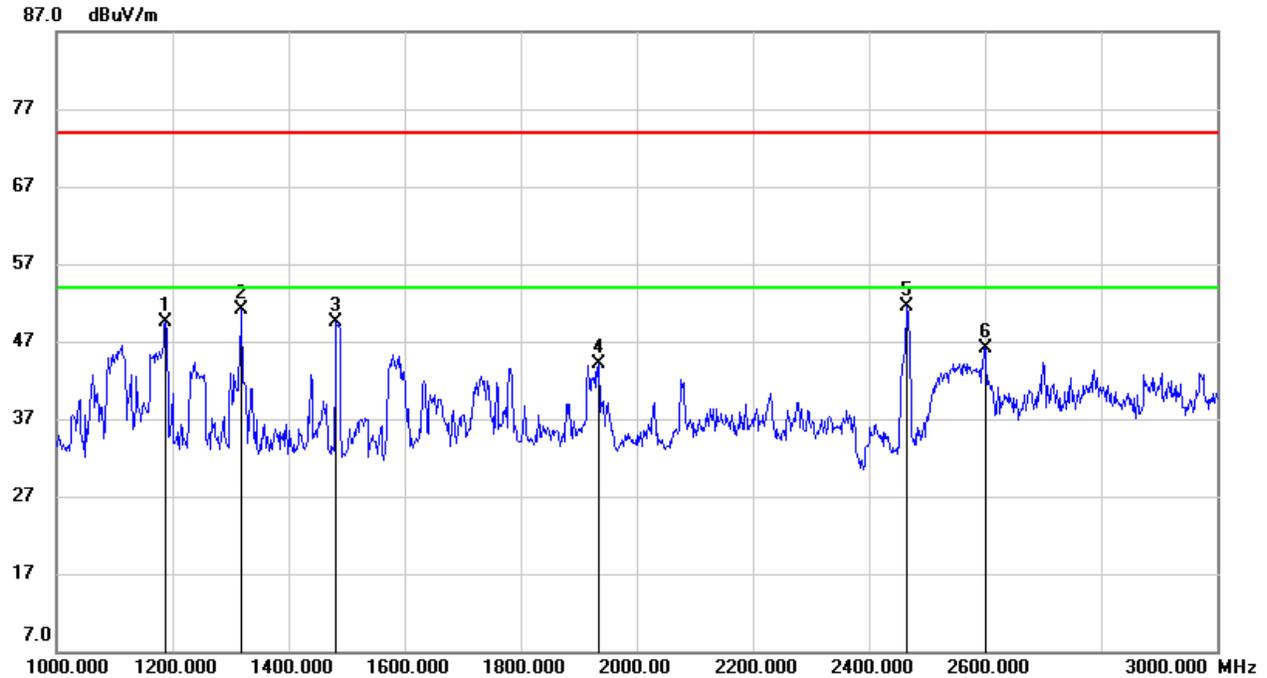
**RESULTS**

**6.1. WORST-CASE CO-LOCATION**

**6.1.1. Condition 1**

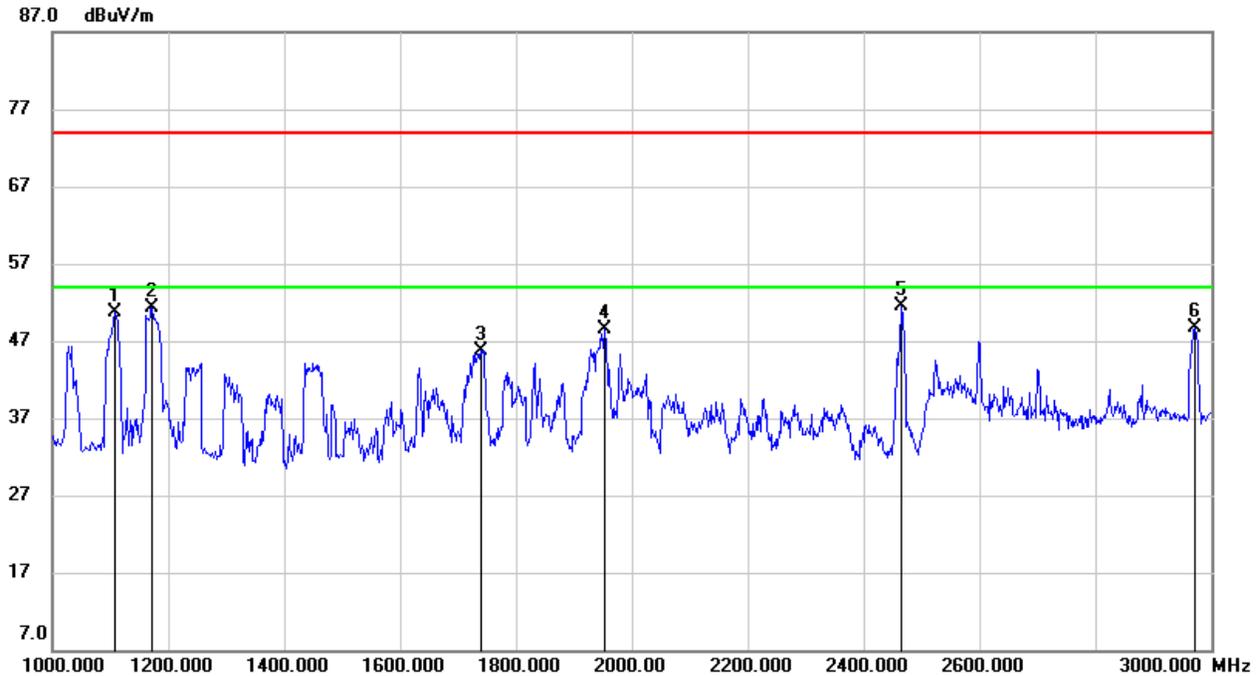
**LTE Band 66( 1.4MHz High CHANNEL QPSK) and WIFI 2.4G (Mid CHANNEL) (WORST-CASE CONFIGURATION, HORIZONTAL)**

**1-3GHz**



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1188.000	62.29	-12.77	49.52	74.00	-24.48	peak
2	1318.000	63.37	-12.36	51.01	74.00	-22.99	peak
3	1482.000	61.81	-12.24	49.57	74.00	-24.43	peak
4	1934.000	54.05	-9.91	44.14	74.00	-29.86	peak
5	2462.000	58.99	-7.40	51.59	/	/	fundamental
6	2600.000	53.81	-7.70	46.11	74.00	-27.89	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.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

**SPURIOUS EMISSIONS (HIGH CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)****1-3GHz**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1108.000	64.12	-13.46	50.66	74.00	-23.34	peak
2	1172.000	64.17	-12.91	51.26	74.00	-22.74	peak
3	1740.000	56.29	-10.51	45.78	74.00	-28.22	peak
4	1952.000	58.46	-9.88	48.58	74.00	-25.42	peak
5	2462.000	58.84	-7.40	51.44	/	/	fundamental
6	2972.000	54.03	-5.36	48.67	74.00	-25.33	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.

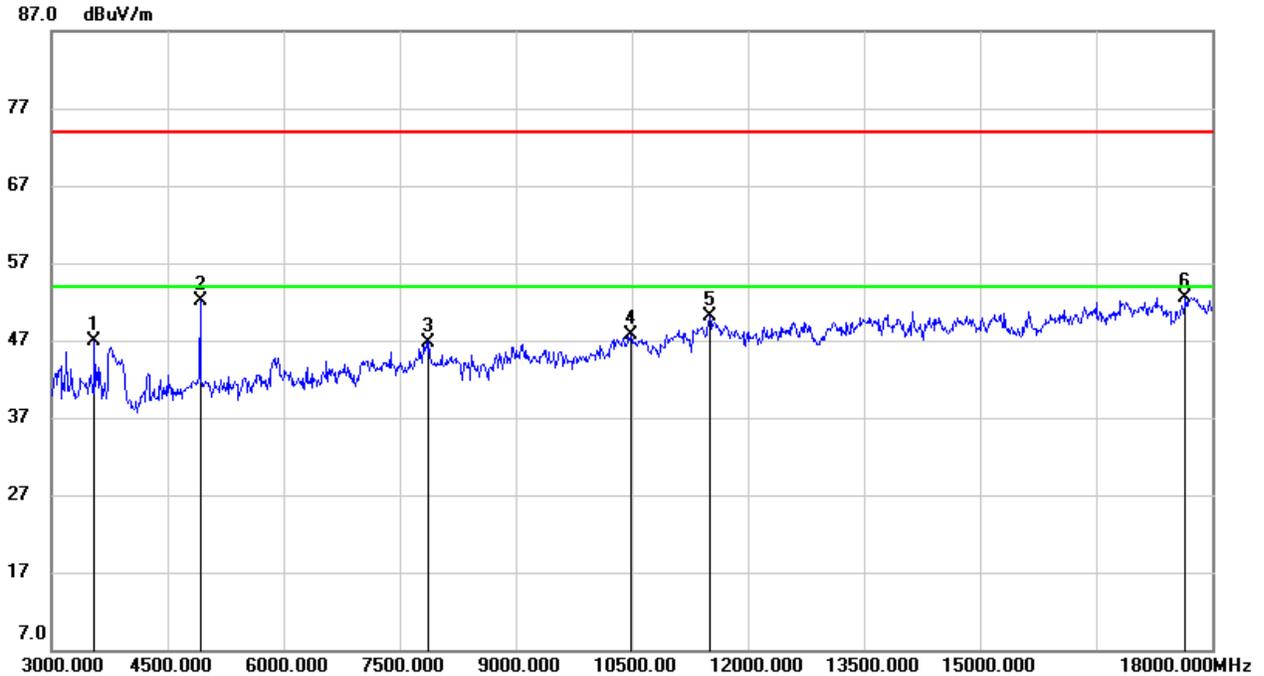
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



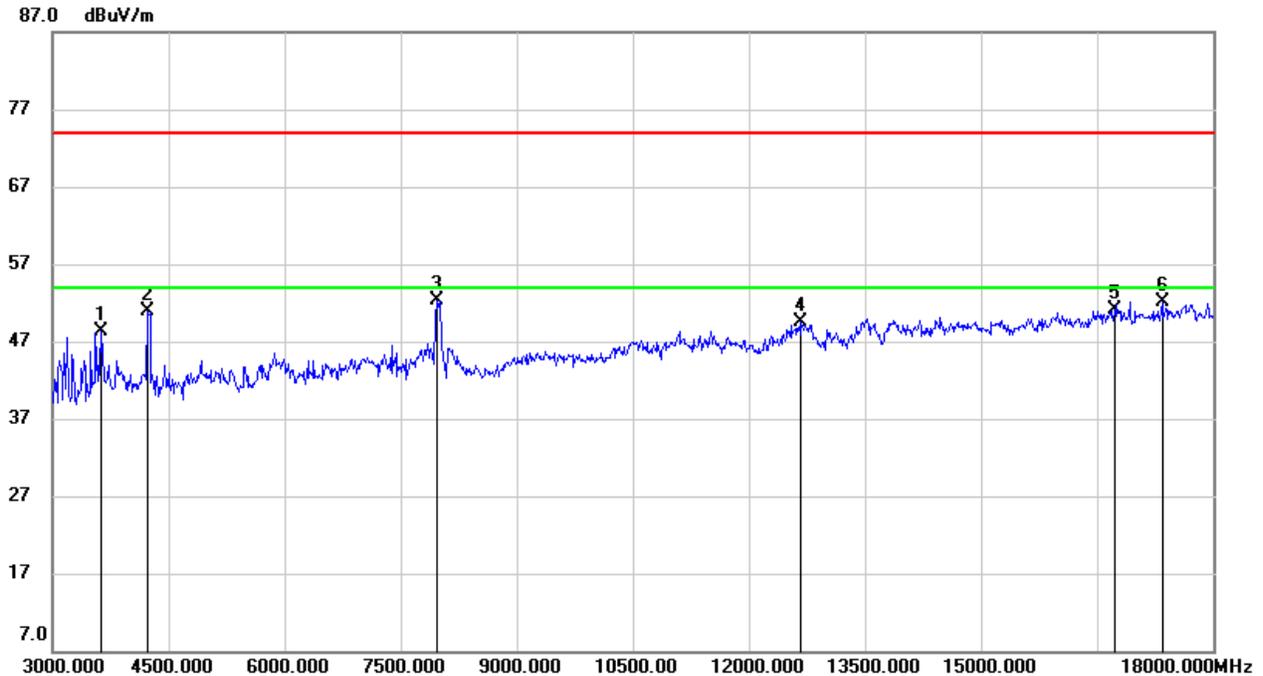
**SPURIOUS EMISSIONS (HIGH CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)**

**3-18GHz**



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3555.000	50.70	-3.72	46.98	74.00	-27.02	peak
2	4920.000	51.09	0.96	52.05	74.00	-21.95	peak
3	7875.000	39.40	7.40	46.80	74.00	-27.20	peak
4	10485.000	36.33	11.32	47.65	74.00	-26.35	peak
5	11505.000	36.66	13.42	50.08	74.00	-23.92	peak
6	17655.000	30.35	22.15	52.50	74.00	-21.50	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 HPF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

**SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)****3-18GHz**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3630.000	51.64	-3.28	48.36	74.00	-25.64	peak
2	4230.000	52.45	-1.47	50.98	74.00	-23.02	peak
3	7965.000	45.30	7.00	52.30	74.00	-21.70	peak
4	12675.000	35.21	14.21	49.42	74.00	-24.58	peak
5	16725.000	31.20	19.93	51.13	74.00	-22.87	peak
6	17340.000	30.46	21.61	52.07	74.00	-21.93	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 HPF losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

Note: All the test modes and combination have been considered. Only the worst data record in the report.

**END OF REPORT**