



**FCC Part15, Subpart B  
ICES-003**

**TEST REPORT**

*For*

**TOY Receiver**

**MODEL NUMBER: 6420B3**

**FCC ID: G6D6420B3**

**REPORT NUMBER: 4789510574**

**ISSUE DATE: June 30, 2020**

*Prepared for*

**NEW BRIGHT INDUSTRIAL CO., LTD  
9/F., NEW BRIGHT BUILDING, 11 SHEUNG YUET ROAD, KOWLOON BAY,  
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	06/30/2020	Initial Issue	



Summary of Test Results				
Standard	Test Item	Limit	Result	Remark
FCC Part15, Subpart B ANSI C63.4-2014 ICES-003 Issue 6	Conducted Disturbance	Class B	N/A	NOTE (1) NOTE (2)
	Radiated Disturbance below 1 GHz	Class B	PASS	
	Radiated Disturbance above 1 GHz	Class B	PASS	NOTE (1) NOTE (3)

**Note:**

(1) "N/A" denotes test is not applicable in this test report.

(2) This test is only applicable for devices which can be charged or powered by AC power cable.

(3) If the highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz. If the highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz. If the highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz, measurement shall only be made up to 5 GHz. If the highest frequency of the internal sources of the EUT is above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 40 GHz, whichever is less.

(4) This test report is only published to and used by the applicant, and it is not for evidence purpose in China.

(5) The measurement result for the sample received is <Pass> according to < FCC Part15, Subpart B and ICES-003 Issue 6 > when <Accuracy Method> decision rule is applied.



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# 1. ATTESTATION OF TEST RESULTS

## Applicant Information

Company Name: NEW BRIGHT INDUSTRIAL CO., LTD  
Address: 9/F., NEW BRIGHT BUILDING, 11 SHEUNG YUET ROAD,  
KOWLOON BAY, KOWLOON,HONG KONG.

## Manufacturer Information

Company Name: NEW BRIGHT INDUSTRIAL CO., LTD  
Address: 9/F., NEW BRIGHT BUILDING, 11 SHEUNG YUET ROAD,  
KOWLOON BAY, KOWLOON,HONG KONG.

## EUT Information

EUT Name: TOY Receiver  
Model: 6420B3  
Sample Status: Normal  
Sample ID: 3118762  
Sample Received Date: June 12, 2020  
Date of Tested: June 13, 2020 ~ June 23, 2020

APPLICABLE STANDARDS	
STANDARDS	TEST RESULTS
FCC Part15, Subpart B ANSI C63.4-2014 ICES-003 Issue 6	PASS

Prepared By:

Checked By:

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Approved By:

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Laboratory Manager



## 2. TEST METHODOLOGY

All tests were performed in accordance with the standard FCC Part15 Subpart B & ANSI C63.4-2014 and ICES-003 Issue 6.

## 3. FACILITIES AND ACCREDITATION

<p>Accreditation Certificate</p>	<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 Recognized 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 Industry Canada. 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: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People’s Republic of China.

## 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	Measurement Frequency Range	K	U(dB)
Conducted emissions from the AC mains power ports	0.009MHz ~ 0.15MHz	2	4.00
Conducted emissions from the AC mains power ports	0.15MHz ~ 30MHz	2	3.62
Radiated emissions	30MHz ~ 1GHz	2	4.00
Radiated emissions	1GHz ~ 18GHz	2	5.78

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	TOY Receiver
Model	6420B3
Battery	DC 1.2V 80mAh

### 5.2. Test Mode

Test Mode	Description
Mode 1	Charging
Mode 2	Running
Mode 3	Receiving

### 5.3. EUT Accessory

Item	Accessory	Brand Name	Model Name	Description
1	Controller	NEW BRIGHT	43HC	N/A





#### 5.4. Support Units or Accessories for System Test

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

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

The following cables were used to form a representative test configuration during the tests.

Item	Type of cable	Shielded Type	Ferrite Core	Specification
/	/	/	/	/



## 6. MEASURING EQUIPMENT AND SOFTWARE USED

Radiated Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Dec. 6, 2019	Dec. 6, 2020
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130959	Sept. 17, 2018	Sept. 17, 2021
Preamplifier	HP	8447D	2944A09099	Dec. 5, 2019	Dec. 5, 2020
EMI Measurement Receiver	R&S	ESR26	101377	Dec. 5, 2019	Dec. 5, 2020
Horn Antenna	TDK	HRN-0118	130939	Sept. 17, 2018	Sept. 17, 2021
Preamplifier	TDK	PA-02-0118	TRS-305-00067	Dec. 05, 2019	Dec. 5, 2020
Preamplifier	TDK	PA-02-001-3000	TRS-302-00050	Dec. 05, 2019	Dec. 05, 2020
Software					
Description			Manufacturer	Name	Version
Test Software for Radiated Emissions			Farad	EZ-EMC	Ver. UL-3A1

## 7. EMISSION TEST

### 7.1. Radiated Disturbance Measurement

#### 7.1.1. Limits of radiated disturbance measurement

##### Below 1 GHz

##### Measurement Method and Applied Limits:

##### ANSI C63.4:

Frequency (MHz)	Class A		Class B
	Field strength (uV/m) ( at 10m)	Field strength (dBuV/m) (at 3m)	Field strength (dBuV/m) (at 3m)
30 - 88	90	49.5	40
88 - 216	150	53.9	43.5
216 - 960	210	56.9	46
Above 960	300	60	54

##### Above 1 GHz

##### Measurement Method and Applied Limits:

##### ANSI C63.4:

Frequency (MHz)	Class A				Class B	
	(dBuV/m) (at 3m)		(dBuV/m) (at 10m)		(dBuV/m) (at 3m)	
	Peak	Average	Peak	Average	Peak	Average
Above 1000	80	60	69.5	49.5	74	54

#### Frequency Range of Radiated Disturbance Measurement

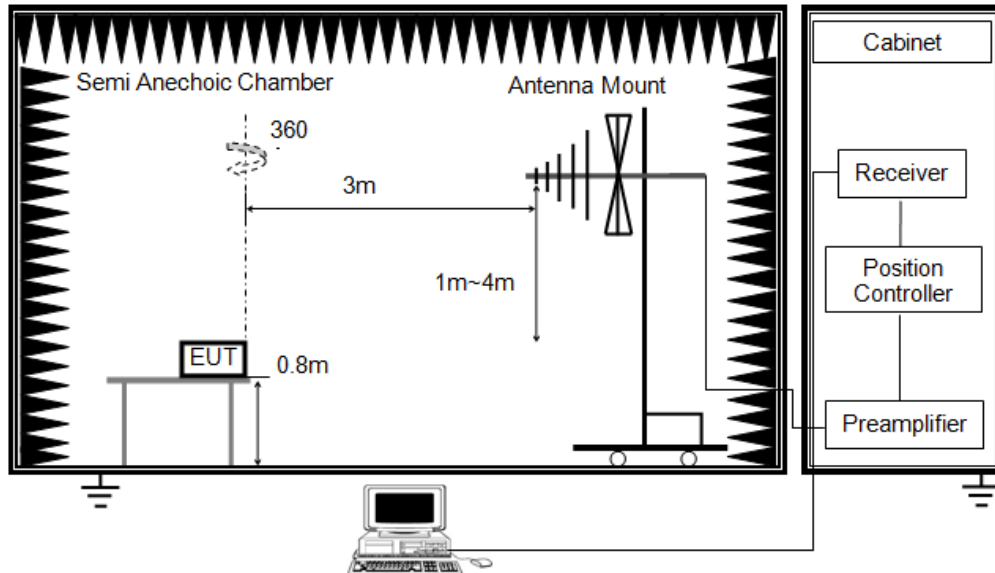
Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 - 108	1000
108 - 500	2000
500 - 1000	5000
Above 1000	5 <sup>th</sup> harmonic of the highest frequency or 40 GHz, whichever is lower

#### NOTE:

- (1) The limit for radiated test was performed according to FCC Part 15, Subpart B;
- (2) The tighter limit applies at the band edges;
- (3) Emission level (dBuV/m) = 20log Emission level (uV/m),  
3m Emission level = 10m Emission level + 20log(10m/3m);

### 7.1.2. Test setup and procedure

Below 1G and above 30MHz

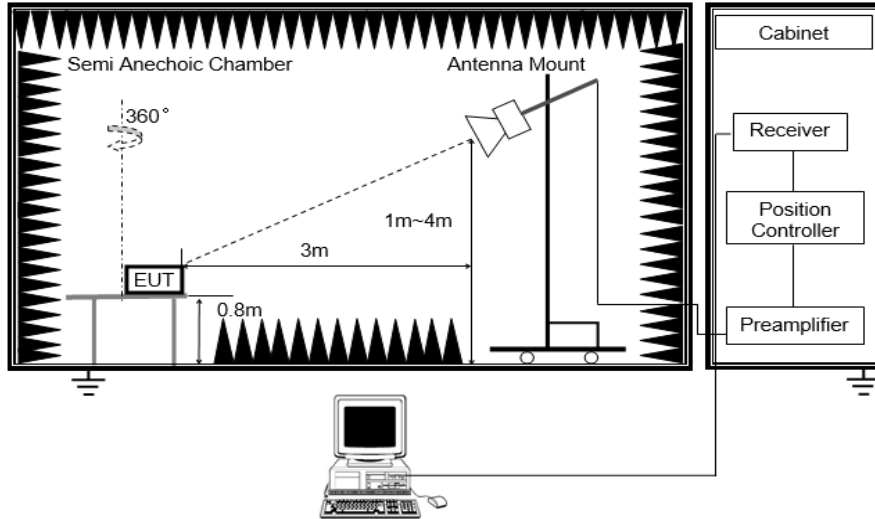


The setting of the spectrum analyser

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

1. The testing follows the guidelines in ANSI C63.4-2014.
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 was 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. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
5. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
6. For measurement below 1GHz, 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 1G



The setting of the spectrum analyser

RBW	1M
VBW	3M
Sweep	Auto
Detector	Peak: Peak AVG: RMS
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.4-2014.
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 is 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. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
5. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
6. For measurement above 1GHz, the peak emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the peak limit specified in Section 15.109. If peak result complies with average limit, average result is deemed to comply with average limit.
7. The average emission measurement will be measured by the RMS detector and must comply with the average limit specified in Section 15.109.



### 7.1.3. Test Environment

Radiated Disturbance - below 1 GHz		Radiated Disturbance - above 1 GHz	
Temperature:	24°C	Temperature:	22.7°C
Humidity:	63%	Humidity:	61%
ATM pressure:	101kPa	ATM pressure:	101kPa

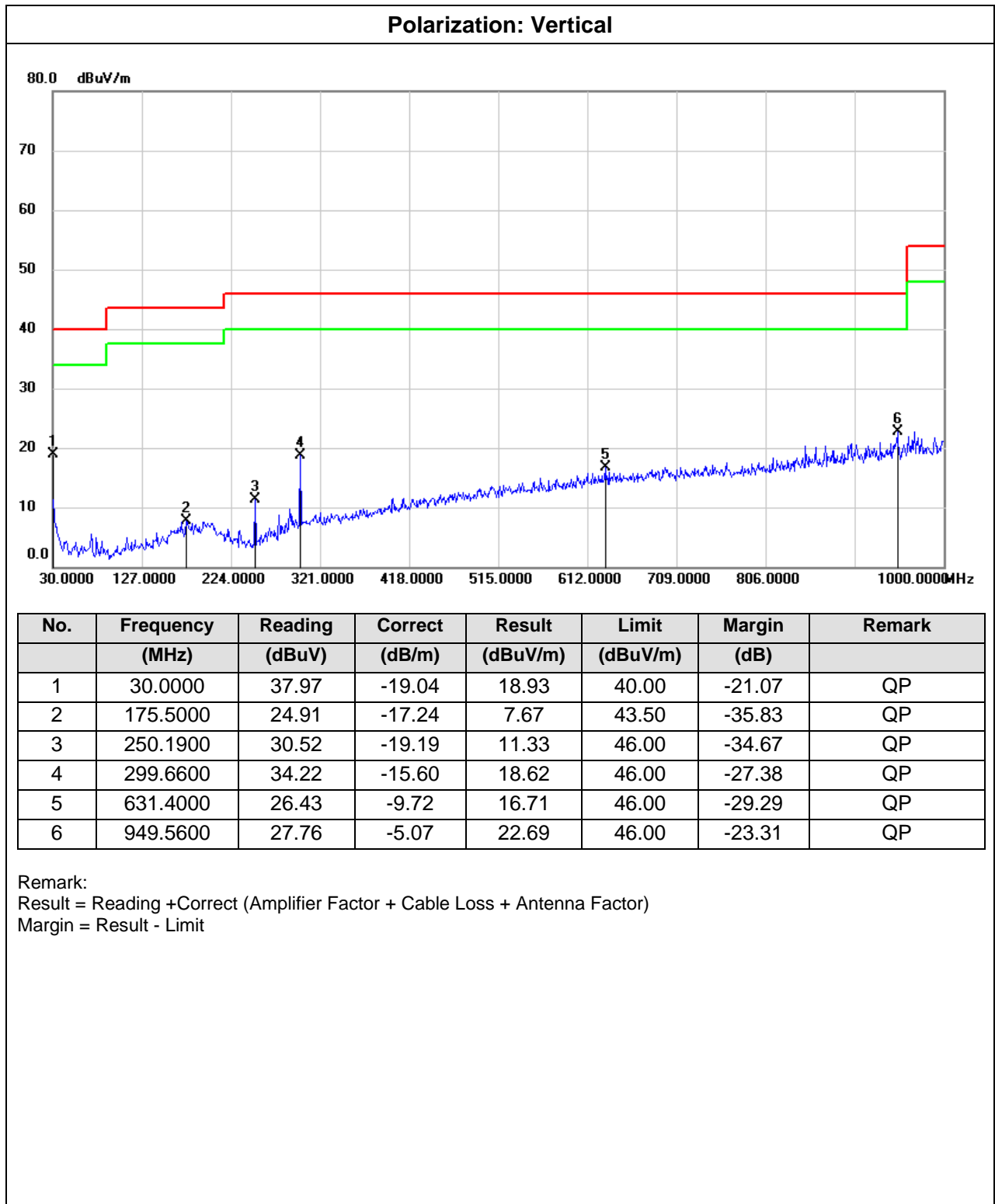
### 7.1.4. Test Mode

Radiated Disturbance - below 1 GHz		Radiated Disturbance - above 1 GHz	
Pre-test Mode:	Mode 1 - Mode 3	Pre-test Mode:	Mode 1 - Mode 3
Final Test Mode:	Mode 1 - Mode 3	Final Test Mode:	Mode 2 & Mode 3

Note: All test modes have been tested, but only the worst case data recorded in the report.

### 7.1.5. Test Results – below 1GHz

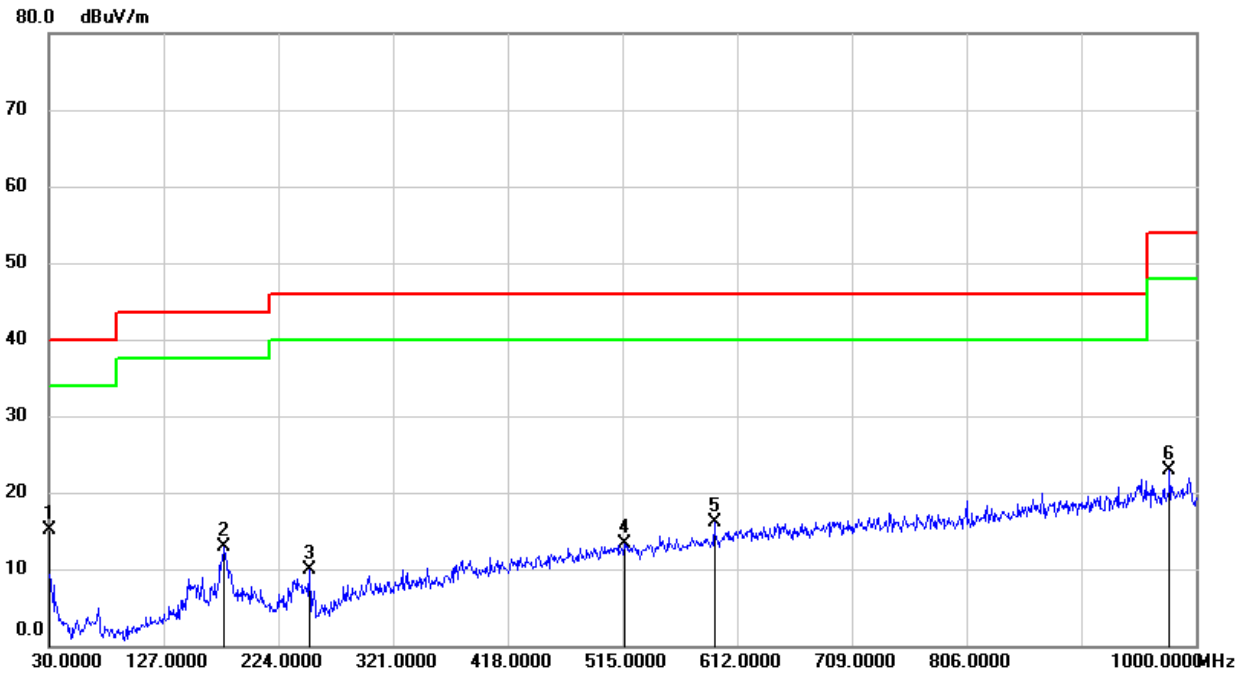
Test Mode:	Mode 1
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Test Mode:	Mode 1
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**Polarization: Horizontal**



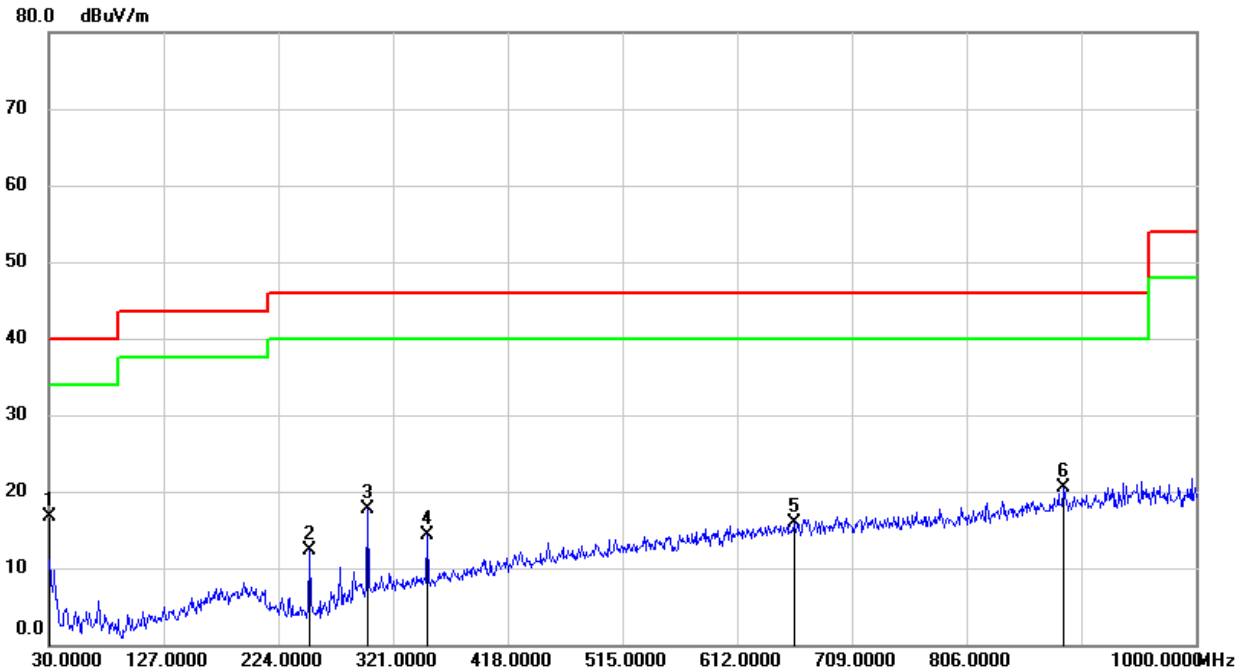
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.0000	34.20	-19.04	15.16	40.00	-24.84	QP
2	178.4100	30.09	-17.11	12.98	43.50	-30.52	QP
3	250.1900	29.14	-19.19	9.95	46.00	-36.05	QP
4	516.9400	24.51	-11.20	13.31	46.00	-32.69	QP
5	592.6000	26.10	-10.06	16.04	46.00	-29.96	QP
6	977.6900	27.90	-5.02	22.88	54.00	-31.12	QP

Remark:  
 Result = Reading + Correct (Amplifier Factor + Cable Loss + Antenna Factor)  
 Margin = Result - Limit





Test Mode:	Mode 2
Test Voltage:	DC 1.2V

**Polarization: Vertical**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.0000	35.68	-19.04	16.64	40.00	-23.36	QP
2	250.1900	31.44	-19.19	12.25	46.00	-33.75	QP
3	299.6600	33.24	-15.60	17.64	46.00	-28.36	QP
4	350.1000	28.85	-14.57	14.28	46.00	-31.72	QP
5	660.5000	25.07	-9.20	15.87	46.00	-30.13	QP
6	888.4500	26.39	-5.95	20.44	46.00	-25.56	QP

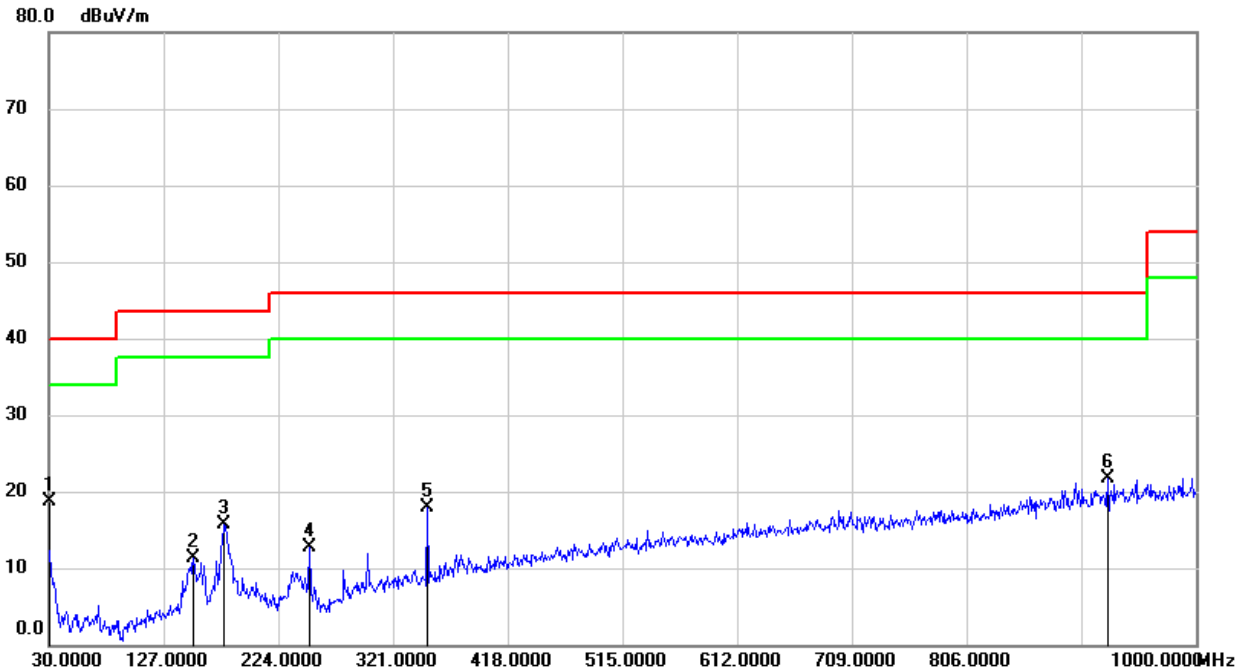
## Remark:

Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)

Margin = Result - Limit



Test Mode:	Mode 2
Test Voltage:	DC 1.2V

**Polarization: Horizontal**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.0000	37.68	-19.04	18.64	40.00	-21.36	QP
2	152.2200	29.69	-18.38	11.31	43.50	-32.19	QP
3	177.4400	32.80	-17.16	15.64	43.50	-27.86	QP
4	250.1900	31.92	-19.19	12.73	46.00	-33.27	QP
5	350.1000	32.40	-14.57	17.83	46.00	-28.17	QP
6	925.3100	27.12	-5.47	21.65	46.00	-24.35	QP

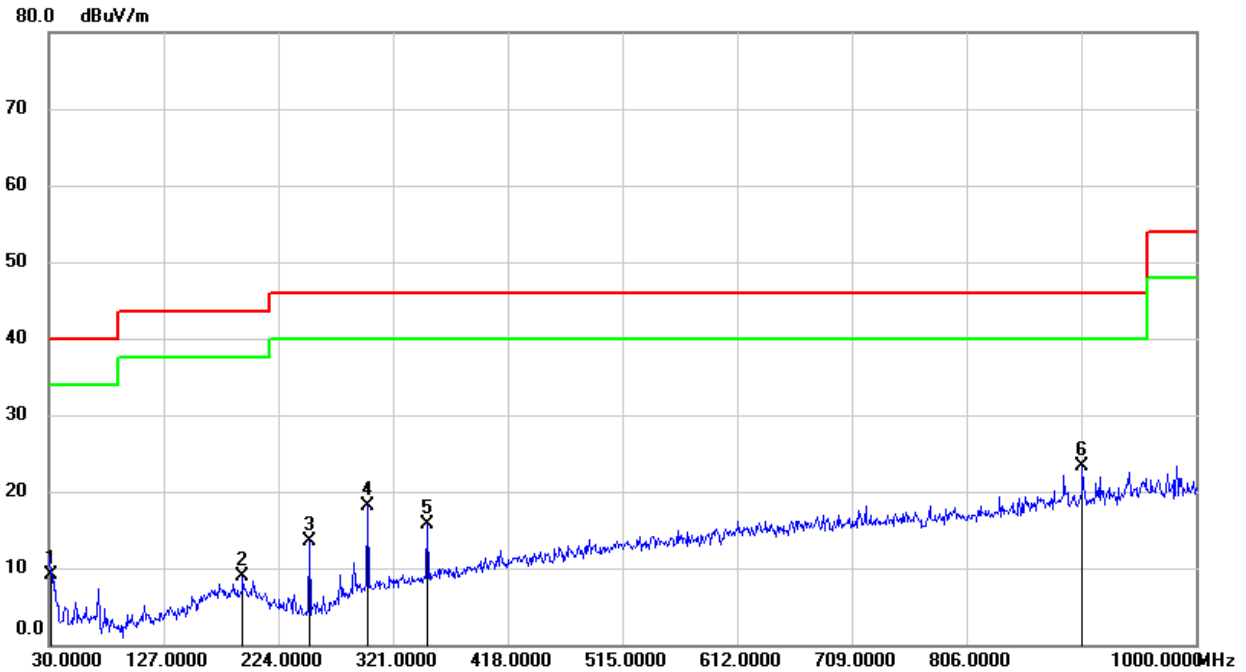
## Remark:

Result = Reading + Correct (Amplifier Factor + Cable Loss + Antenna Factor)

Margin = Result - Limit



Test Mode:	Mode 3
Test Voltage:	DC 1.2V

**Polarization: Vertical**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	31.9400	28.30	-19.25	9.05	40.00	-30.95	QP
2	193.9299	25.51	-16.70	8.81	43.50	-34.69	QP
3	250.1900	32.78	-19.19	13.59	46.00	-32.41	QP
4	299.6600	33.64	-15.60	18.04	46.00	-27.96	QP
5	350.1000	30.33	-14.57	15.76	46.00	-30.24	QP
6	903.9700	28.88	-5.61	23.27	46.00	-22.73	QP

## Remark:

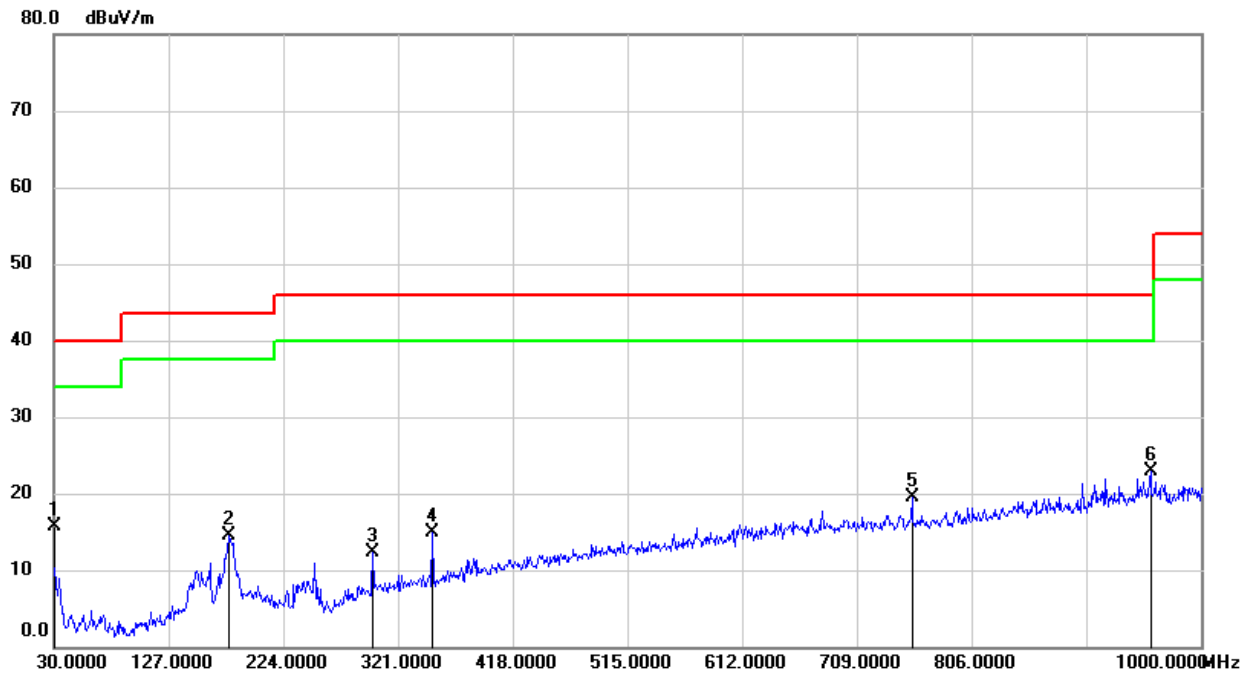
Result = Reading + Correct (Amplifier Factor + Cable Loss + Antenna Factor)

Margin = Result - Limit



Test Mode:	Mode 3
Test Voltage:	DC 1.2V

**Polarization: Horizontal**



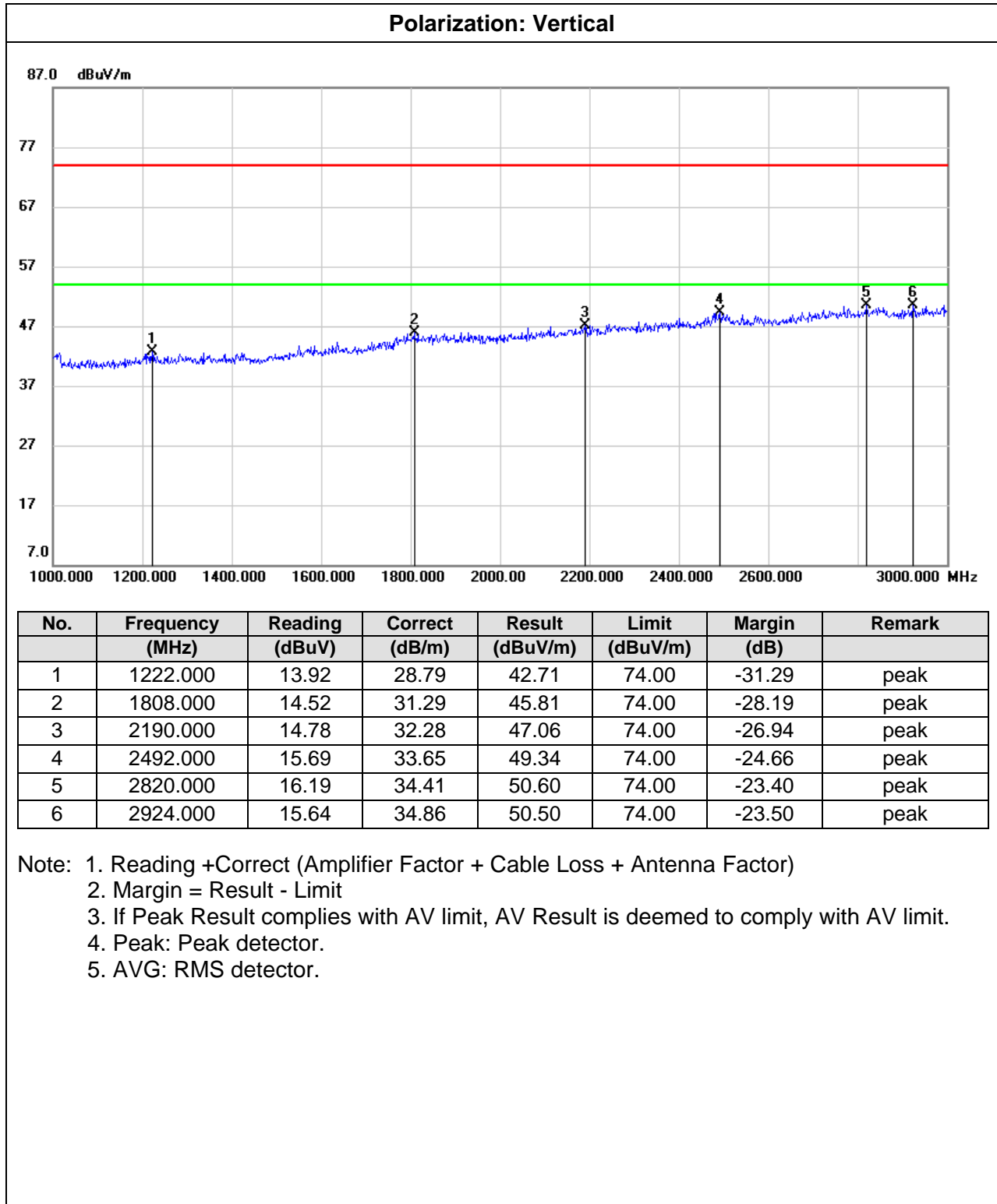
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.0000	34.71	-19.04	15.67	40.00	-24.33	QP
2	178.4100	31.63	-17.11	14.52	43.50	-28.98	QP
3	299.6600	27.82	-15.60	12.22	46.00	-33.78	QP
4	350.1000	29.47	-14.57	14.90	46.00	-31.10	QP
5	755.5600	27.77	-8.20	19.57	46.00	-26.43	QP
6	957.3200	27.85	-5.03	22.82	46.00	-23.18	QP

Remark:  
 Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)  
 Margin = Result - Limit



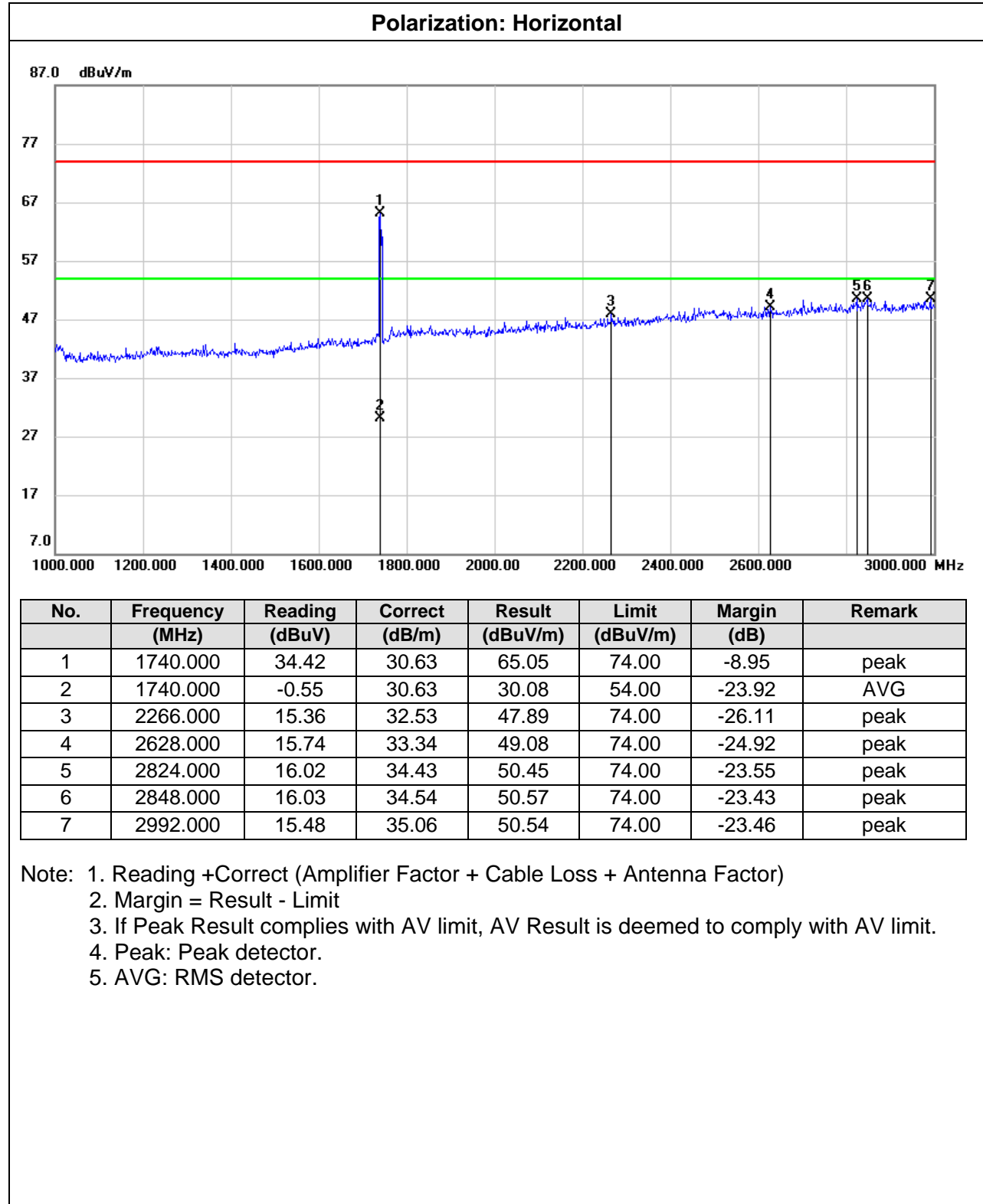
### 7.1.6. Test Results – above 1GHz

Test Mode:	Mode 2
Test Voltage:	DC 1.2V



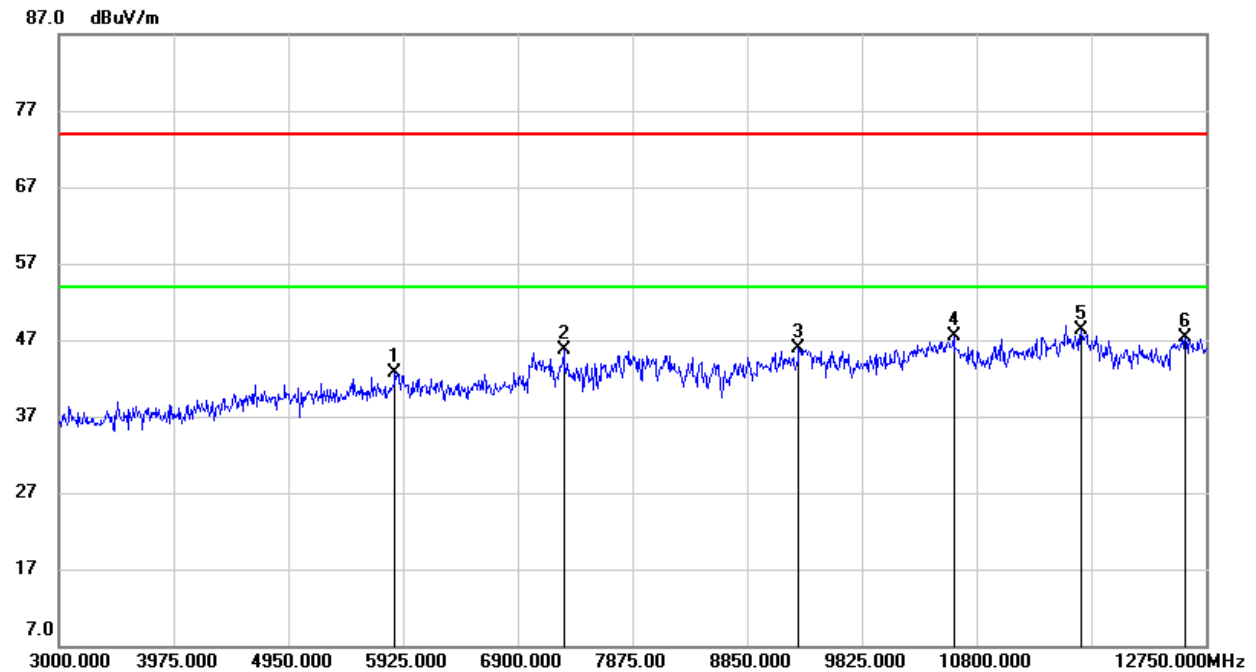


Test Mode:	Mode 2
Test Voltage:	DC 1.2V





Test Mode:	Mode 2
Test Voltage:	DC 1.2V

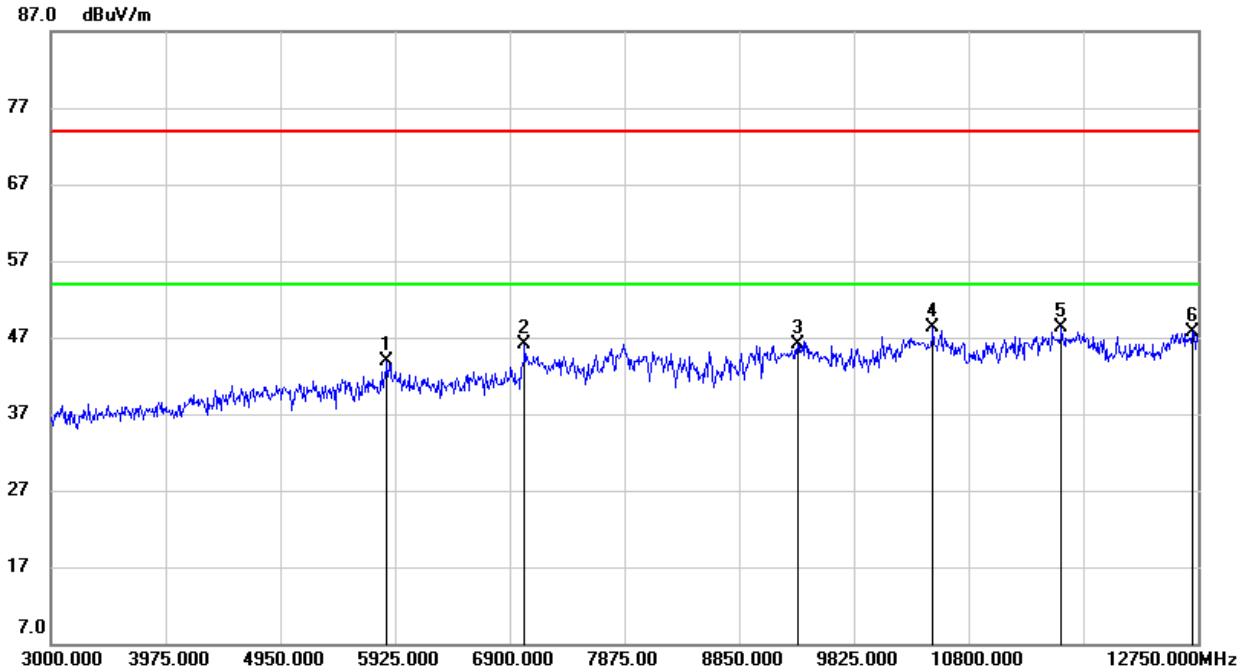
**Polarization: Vertical**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5856.750	38.60	4.16	42.76	74.00	-31.24	peak
2	7290.000	39.65	6.03	45.68	74.00	-28.32	peak
3	9288.750	36.94	8.95	45.89	74.00	-28.11	peak
4	10605.000	35.48	11.93	47.41	74.00	-26.59	peak
5	11687.250	35.40	12.97	48.37	74.00	-25.63	peak
6	12574.500	33.15	14.14	47.29	74.00	-26.71	peak

- Note: 1. Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)  
 2. Margin = Result - Limit  
 3. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 4. Peak: Peak detector.



Test Mode:	Mode 2
Test Voltage:	DC 1.2V

**Polarization: Horizontal**

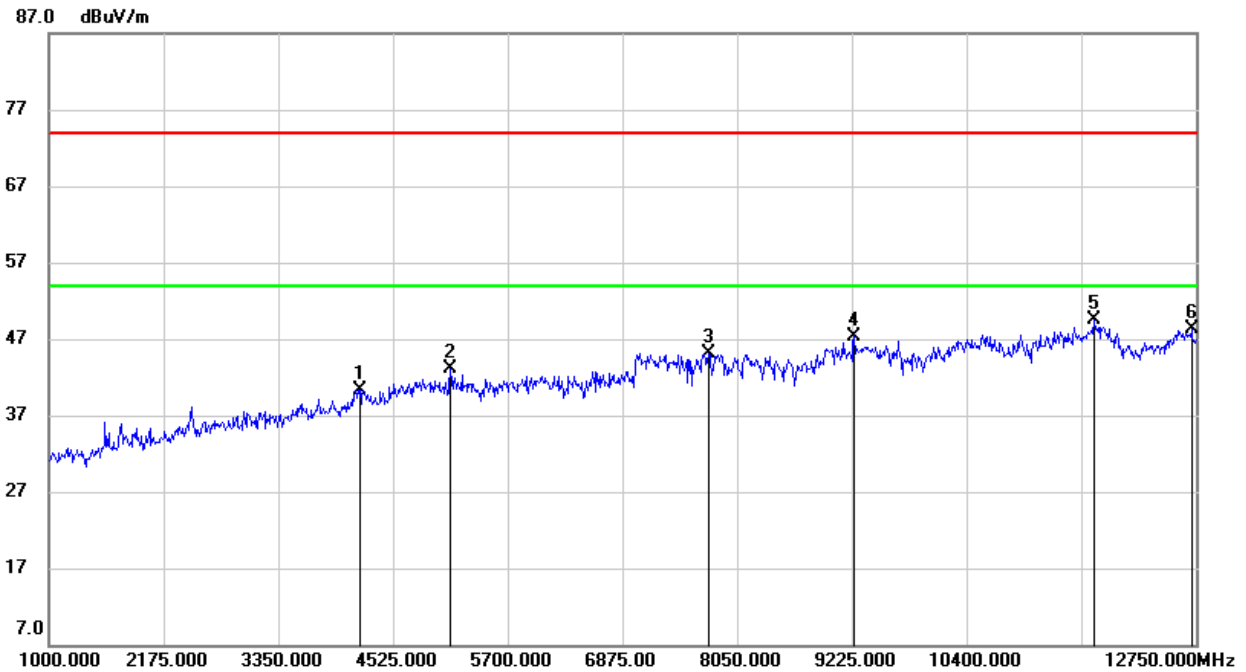
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5856.750	39.82	4.16	43.98	74.00	-30.02	peak
2	7026.750	40.30	5.80	46.10	74.00	-27.90	peak
3	9347.250	36.92	9.27	46.19	74.00	-27.81	peak
4	10497.750	37.02	11.38	48.40	74.00	-25.60	peak
5	11589.750	35.00	13.21	48.21	74.00	-25.79	peak
6	12701.250	33.44	14.31	47.75	74.00	-26.25	peak

Note: 1. Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)  
 2. Margin = Result - Limit  
 3. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 4. Peak: Peak detector.





Test Mode:	Mode 3
Test Voltage:	DC 1.2V

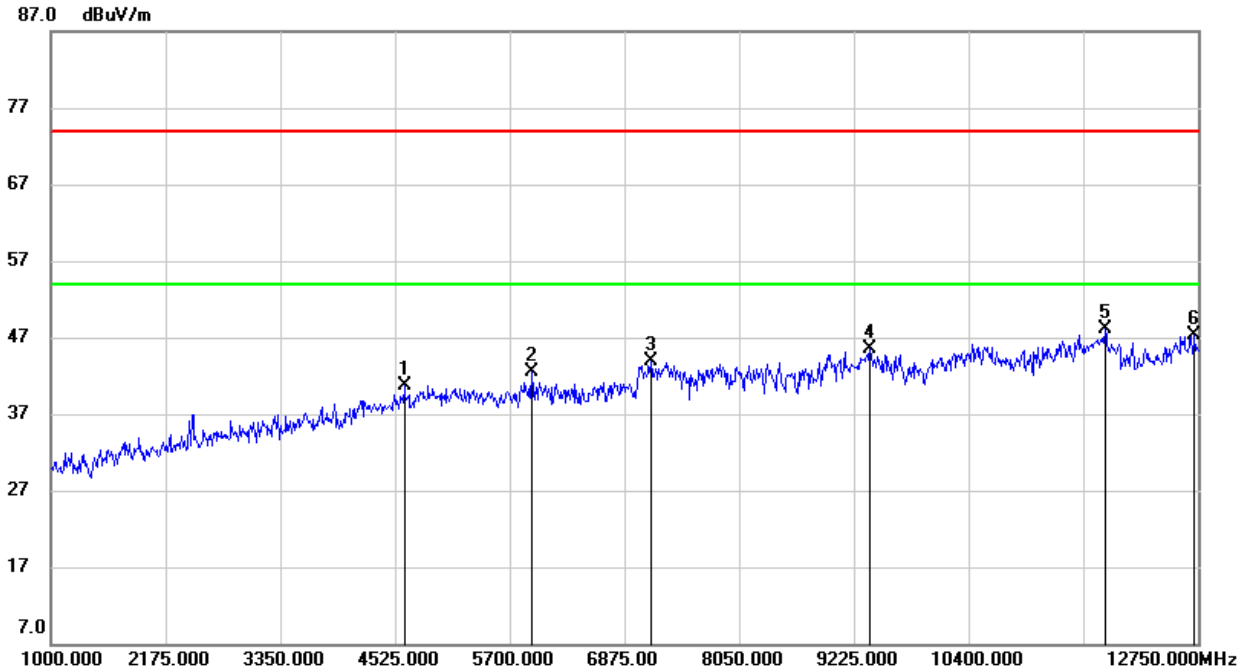
**Polarization: Vertical**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4184.250	42.25	-1.93	40.32	74.00	-33.68	peak
2	5112.500	41.69	1.45	43.14	74.00	-30.86	peak
3	7756.250	39.12	6.03	45.15	74.00	-28.85	peak
4	9248.500	39.34	8.06	47.40	74.00	-26.60	peak
5	11704.250	36.49	12.96	49.45	74.00	-24.55	peak
6	12703.000	34.44	13.91	48.35	74.00	-25.65	peak

Note: 1. Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)  
 2. Margin = Result - Limit  
 3. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 4. Peak: Peak detector.



Test Mode:	Mode 3
Test Voltage:	DC 1.2V

**Polarization: Horizontal**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4619.000	41.34	-0.54	40.80	74.00	-33.20	peak
2	5923.250	40.05	2.36	42.41	74.00	-31.59	peak
3	7145.250	38.50	5.35	43.85	74.00	-30.15	peak
4	9389.500	36.61	8.81	45.42	74.00	-28.58	peak
5	11798.250	34.62	13.43	48.05	74.00	-25.95	peak
6	12714.750	33.38	13.95	47.33	74.00	-26.67	peak

Note: 1. Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)  
 2. Margin = Result - Limit  
 3. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 4. Peak: Peak detector.

**END OF REPORT**