

# CFR 47 FCC PART 15 SUBPART C TEST REPORT

For

**Data Recorder** 

**MODEL NUMBER: AKRI-1** 

FCC ID: 2A6BYAKRI-1

REPORT NUMBER: 4790307922-4

**ISSUE DATE: Apr. 19, 2022** 

Prepared for

**ANKON Technologies Co., Ltd.** 

Prepared by

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# **Revision History**

Rev.	Issue Date	Revisions	Revised By
V0	04/19/2022	Initial Issue	



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Summary of Test Results					
Clause	Test Items	FCC/IC Rules	Test Results		
1	6dB Bandwidth	FCC Part 15.247 (a) (2)	Pass		
2	Conducted Output Power FCC Part 15.247 (b) (3)		Pass		
3	Power Spectral Density	FCC Part 15.247 (e)	Pass		
4	Conducted Bandedge and Spurious Emission	FCC Part 15.247 (d)	Pass		
5	Radiated Bandedge and Spurious Emission	FCC Part 15.247 (d) FCC Part 15.209 FCC Part 15.205	Pass		
6	Conducted Emission Test for AC Power Port	FCC Part 15.207	N/A (See Note 1)		
7	Antenna Requirement	FCC Part 15.203	Pass		

#### Note:

<sup>1)</sup> The RF modules cannot be operated when charging.

<sup>2)</sup> The measurement result for the sample received is <Pass> according to < ANSI C63.10-2013, FCC CFR 47 Part 2, FCC CFR 47 Part 15C> when <Accuracy Method> decision rule is applied.



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# 1. ATTESTATION OF TEST RESULTS

**Applicant Information** 

Company Name: ANKON Technologies Co., Ltd.

Address: B3-2, B3-3, D3-4 Biolake, No.666, Hi-Tech Road, East Lake New

Technology Development Zone, Wuhan, 430075 Hubei, China

**Manufacturer Information** 

Company Name: ANKON Technologies Co., Ltd.

Address: B3-2, B3-3, D3-4 Biolake, No.666, Hi-Tech Road, East Lake New

Technology Development Zone, Wuhan, 430075 Hubei, China

**Factory Information** 

Company Name: ANKON Technologies Co., Ltd.

Address: B3-2, B3-3, D3-4 Biolake, No.666, Hi-Tech Road, East Lake New

Technology Development Zone, Wuhan, 430075 Hubei, China

**EUT Description** 

**Laboratory Leader** 

EUT Name: Data Recorder

Model: AKRI-1

Sample Number: 4759652, 4759659 Sample Received Date: Mar. 12, 2022

Date of Tested: Mar. 16, 2022 ~ Apr. 19, 2022

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

Prepared By:  Tom Tang	Reviewed By:  Leon Wu
Tom Tang Project Engineer	Leon Wu Senior Engineer Project
Authorized By:	
Chris Zhong	
Chris Zhong	



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# 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, CFR 47 FCC Part 2, CFR 47 FCC Part 15, ANSI C63.10-2013.

# 3. FACILITIES AND ACCREDITATION

Note 1: All tests measurement facilities use to collect the measurement data are located at No. 2, Chengwan Road, Suzhou Industrial Park, Suzhou 215122, People's Republic of China

Note 2: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. These measurements below 30MHz had been correlated to measurements performed on an OFS.

Note 3: The test anechoic chamber in UL-CCIC COMPANY LIMITED 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.



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# 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 recognize 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	3.1dB
Radiation Emission test (include Fundamental emission) (9KHz-30MHz)	3.4dB
Radiation Emission test (include Fundamental emission) (30MHz-1GHz)	3.4dB
Radiation Emission test (1GHz to 26GHz) (include Fundamental emission)	3.9dB (1GHz-18Gz)
(10112 to 200112) (include 1 dilidalifetital cililosion)	4.2dB (18GHz-26Gz)

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



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# 5. EQUIPMENT UNDER TEST

# 5.1. DESCRIPTION OF EUT

EUT Name	Data Recorder
Model	AKRI-1
Radio Technology	915MHz RF
Operation frequency	905MHz ~ 925MHz
Modulation	8-FSK
Data Rate	4Mbps
Power Supply	DC 4.2V

# **5.2. MAXIMUM OUTPUT POWER**

Number of Transmit Chains (NTX)	Frequency (MHz)	Channel Number	Max Conducted Power (dBm)
1 & 2	905-925	1-21[1]	7.23

# 5.3. CHANNEL LIST

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	905	7	911	13	917	19	923
2	906	8	912	14	918	20	924
3	907	9	913	15	919	21	925
4	908	10	914	16	920		
5	909	11	915	17	921		
6	910	12	916	18	922		

# 5.4. TEST CHANNEL CONFIGURATION

	Test Mode	Test Channel	Frequency	
TX C		CH 1, CH 11, CH 21	905MHz, 915MHz, 925MHz	



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# 5.5. THE WORSE CASE CONFIGURATIONS

The Worse Case Power Setting Parameter under 902 ~ 928MHz Band				
Test Software	DAQ-Mobile			
<b>T</b>	Test Channel			
Transmit Antenna Number	NCB: 4MHz			
Number	CH 1	CH 11	CH 21	
1 & 2	905	915	925	

# 5.6. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	905-925	Loop Antenna	-5.0
2	905-925	Meandered IFA Antenna	-10.0

Note: Both the two type antennas were test, the result of the Loop Antenna was worse case and recorded in the report.

Transmit and Receive Mode	Description
⊠2TX, 2RX	ANT 1 & ANT 2 can be used as transmitting/receiving antenna.

# 5.7. THE WORSE CASE CONFIGURATIONS

For the product, there are 14 transmission modules with two type antennas, but only one module of the modules transmits at one time, the result of the Loop Antenna was worse case and recorded in the report.

The EUT only support 8-FSK modulation whose data rate is 4 Mbps, so the data rate of 4 Mbps was test and recorded in this report.



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# 5.8. DESCRIPTION OF TEST SETUP

# **SUPPORT EQUIPMENT**

Item	Equipment	Brand Name	Model Name	P/N
1	Laptop	ThinkPad	ThinkPad X1 Carbon 5th	/

# **I/O CABLES**

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	USB	USB Cable	1	/

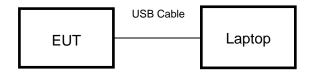
# **ACCESSORIES**

Item	Accessory	Brand Name	Model Name	Description
1	Adapter	UE	UE10WCP1-05200SPA	/

# **TEST SETUP**

The EUT can work in engineering mode with a software through a laptop.

# **SETUP DIAGRAM FOR TESTS**





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# 6. MEASURING INSTRUMENT AND SOFTWARE USED

	Conducted Emissions (Instrument)								
Used	Equipment	Manufacturer	Mode	l No.	Seri	al No.	Upper Last Cal.	Last Cal.	Next Cal.
$\overline{\checkmark}$	EMI Test Receiver	R&S	ESF	₹3	12	6700	2020-12-05	2021-12-04	2022-12-03
$\overline{\checkmark}$	Two-Line V-Network	R&S	ENV:	216	12	6701	2020-12-05	2021-12-04	2022-12-03
V	Artificial Mains Networks	R&S	ENY	'81	12	6711	2020-10-13	2021-10-12	2022-10-11
	Software								
Used	Des	cription		Ма	ınufac	turer	Name	Version	
	Test Software for 0	Conducted distur	bance		R&S	3	EMC32	Ver. 9.25	
		Ra	diated	Emissi	ions (	Instrum	nent <b>)</b>		
Used	Equipment	Manufacturer	Mode	l No.	Seri	al No.	Upper Last Cal.	Last Cal.	Next Cal.
V	Spectrum Analyzer	Keysight	N901	10B	15	5727	2020-05-10	2021-05-09	2022-05-08
V	EMI test receiver	R&S	ESR	26	12	6703	2020-12-05	2021-12-04	2022-12-03
$\checkmark$	Receiver Antenna (9kHz-30MHz)	Schwarzbeck	FMZB	1513	15	5456	2018-06-15	2021-06-03	2024-06-02
$\checkmark$	Receiver Antenna (30MHz-1GHz)	SunAR RF Motion	JB	1	17	7821	2019-01-19	2022-01-18	2025-01-17
	Receiver Antenna (1GHz-18GHz)	R&S	HF9	07	12	6705	2019-01-27	2022-02-28	2025-02-27
	Receiver Antenna (18GHz-26.5GHz)	Schwarzbeck	BBHA	9170	12	6706	2019-01-05	2022-01-04	2025-01-03
V	Pre-amplification (To 18GHz)	Compliance Direction System Inc.	PAP-1G	318-50	17	8825	2021-03-26	2022-03-01	2023-02-28
$\square$	Pre-amplification (To 26.5GHz)	R&S	SCU-		13	5391	2020-12-05	2021-12-04	2022-12-03
	Highpass Filter	Wainwright	WHKX10- 2700-3000- 18000-40SS			2	2020-05-10	2021-05-09	2022-05-08
		Software							
Used		ription	Manufac		turer		Name	Version	
				Tonsce			TS+	Ver. 2.5	
			Oth	ner ins	trum	ents			
Used	Equipment	Manufacturer	Model No.		Seri	al No.	Upper Last Cal.	Last Cal.	Next Cal.
$\checkmark$	Spectrum Analyzer	Keysight	N901	10B	15	5368	2020-05-10	2021-05-09	2022-05-08
V	Power Meter	Keysight	U202	1XA	15	5370	2020-05-10	2021-05-09	2022-05-08



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# 7. MEASUREMENT METHODS

No.	Test Item	KDB Name	Section
1	6dB Bandwidth and 99% Occupied Bandwidth	KDB 558074 D01 15.247 Meas Guidance v05r02	8.2
2	Peak Output Power	KDB 558074 D01 15.247 Meas Guidance v05r02	8.3.1.3/8.3.2.3
3	Power Spectral Density	KDB 558074 D01 15.247 Meas Guidance v05r02	8.4
4	Out-of-band emissions in non- restricted bands	KDB 558074 D01 15.247 Meas Guidance v05r02	8.5
5	Out-of-band emissions in restricted bands	KDB 558074 D01 15.247 Meas Guidance v05r02	8.6
6	Band-edge	KDB 558074 D01 15.247 Meas Guidance v05r02	8.7
7	Conducted Emission Test for AC Power Port	ANSI C63.10-2013	6.2



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# 8. ANTENNA PORT TEST RESULTS

# 8.1. ON TIME AND DUTY CYCLE

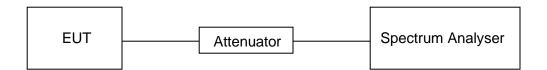
# **LIMITS**

None; for reporting purposes only

# **PROCEDURE**

KDB 558074 Zero-Span Spectrum Analyzer Method

# **TEST SETUP**





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### **TEST ENVIRONMENT**

Temperature	20°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	DC 4.2V

#### **RESULTS**

On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (db)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
2.200	2.460	0.8943	89.43%	0.49	0.45	0.5

Note:

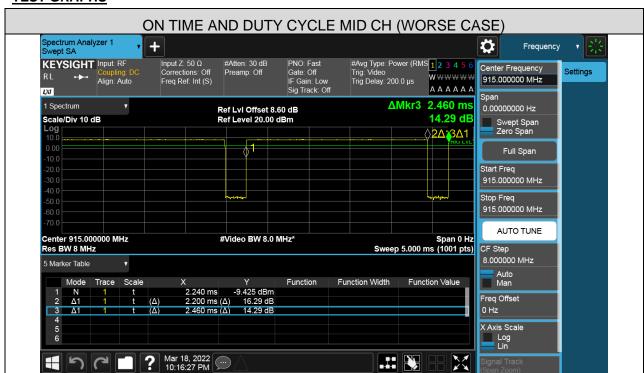
Duty Cycle Correction Factor=10log (1/x).

Where: x is Duty Cycle (Linear)

Where: T is On Time

If that calculated VBW is not available on the analyzer then the next higher value should be used.

#### **TEST GRAPHS**





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# 8.2. 6 dB BANDWIDTH

# **LIMITS**

CFR 47 FCC Part15 (15.247) Subpart C				
Section Test Item		Limit	Frequency Range (MHz)	
CFR 47 FCC 15.247(a)(2)	6 dB Bandwidth	≥ 500kHz	902-928	

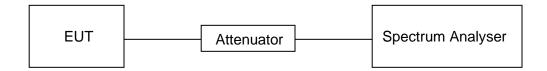
## **TEST PROCEDURE**

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

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	100K
VBW	≥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 to the maximum level measured in the fundamental emission.

#### **TEST SETUP**





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# **TEST ENVIRONMENT**

Temperature	20°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	DC 4.2V

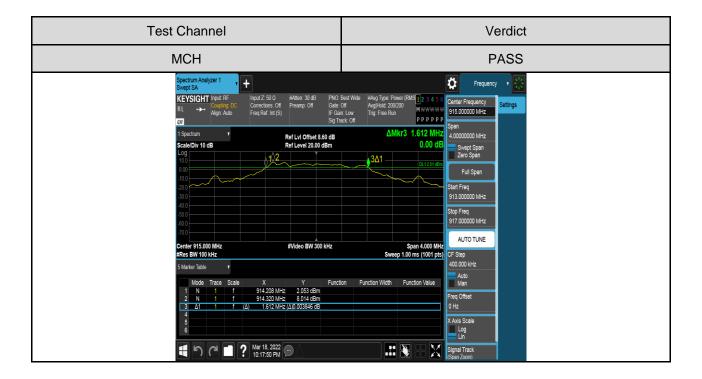
# **RESULTS**

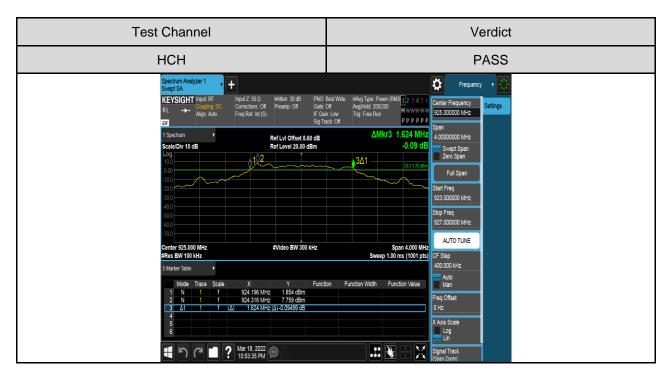
Channel	Frequency	6dB bandwidth (MHz)
Low	905	1.604
Middle	915	1.612
High	925	1.624

# **TEST GRAPHS**











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# 8.3. CONDUCTED OUTPUT POWER

# **LIMITS**

(	CFR 47 FCC Part15 (1	5.247) Subpart C	
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.247(b)(3)	Output Power	1 watt or 30dBm (See note1)	902-928

#### Note:

## **TEST PROCEDURE**

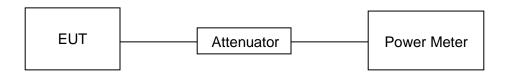
Place the EUT on the table and set it in the transmitting mode.

Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Power sensor.

Measure the power of each channel.

Average Detector used for Average result.

# **TEST SETUP**



## **TEST ENVIRONMENT**

Temperature	20°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	DC 4.2V

## **RESULT**

Test Channel	Measurement Output Power (AV)	10log(1/x) Factor	Maximum Conducted Output Power (AV)	LIMIT (dBm)
	dBm	dB	dBm	
Low	6.74	0.49	7.23	30
Middle	6.62	0.49	7.11	30
High	6.15	0.49	6.64	30

<sup>1.</sup> If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.



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## 8.4. POWER SPECTRAL DENSITY

## **LIMITS**

	CFR 47 FCC Part15 (15.2	247) Subpart C	
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC §15.247 (e)	Power Spectral Density	8 dBm/3 kHz (See note1)	902-928

#### Note:

## **TEST PROCEDURE**

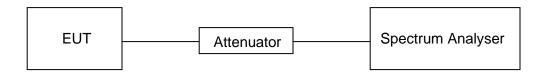
Connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	3 kHz ≤ RBW ≤100 kHz
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.

If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

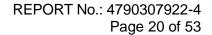
# **TEST SETUP**



## **TEST ENVIRONMENT**

Temperature	20°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	DC 4.2V

<sup>1.</sup> If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.





**RESULTS** 

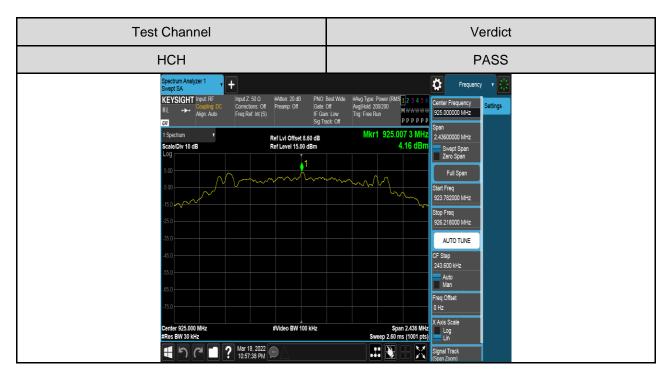
Test Channel	Power Spectral Density (dBm/30kHz)	Limit (dBm/3kHz)	Result
Low	4.81	8	PASS
Middle	4.61	8	PASS
High	4.16	8	PASS

# **TEST GRAPHS**











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# 8.5. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

# **LIMITS**

	CFR 47 FCC Part15 (1	5.247) Subpart C
Section	Test Item	Limit
CFR 47 FCC §15.247 (d)	Conducted Bandedge and Spurious Emissions	at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

# TEST PROCEDURE

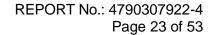
Connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	100K
VBW	≥3 x RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

Use the peak marker function to determine the maximum PSD level.

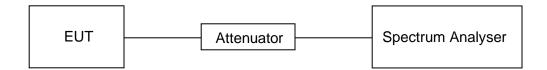
Span	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100K
VBW	≥3 x RBW
measurement points	≥span/RBW
Trace	Max hold
Sweep time	Auto couple.

Use the peak marker function to determine the maximum amplitude level.





## **TEST SETUP**



# **TEST ENVIRONMENT**

Temperature	20°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	DC 4.2V

# PART 1: REFERENCE LEVEL MEASUREMENT

#### **TEST RESULTS TABLE**

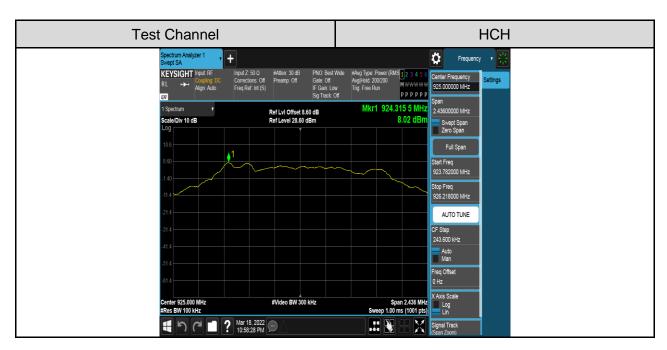
Test Channel	Result[dBm]
LCH	8.38
MCH	8.30
HCH	8.02

# **TEST GRAPHS**











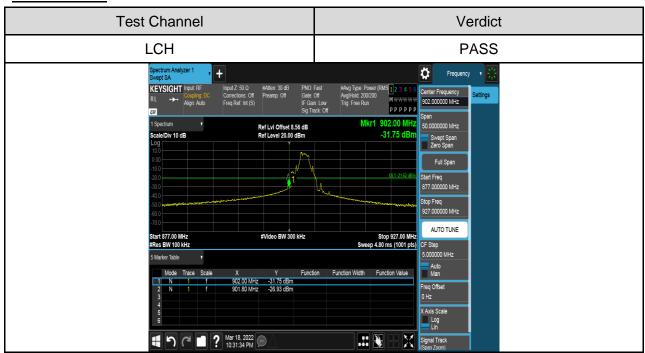
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# **PART 2: CONDUCTED BANDEDGE**

# **TEST RESULTS TABLE**

Test Channel	Result	Verdict
LCH	Refer to the Test Graph	PASS
HCH	Refer to the Test Graph	PASS

# **TEST GRAPHS**







Test Channel

HCH

Section Analyses 1

KEYSIGHT from RF

Connection Of Phenop of General Physics Review (PMS)

Ref Law 2010 08 B

Scale Db 19 08

Ref Law 2010 08 B

Ref Law 2010 08 B

Scale Db 19 08

Scale Db 19 08

Ref Law 2010 08 B

Scale Db 19 08

Sca

# PART 3: CONDUCTED SPURIOUS EMISSION

# **TEST RESULTS TABLE**

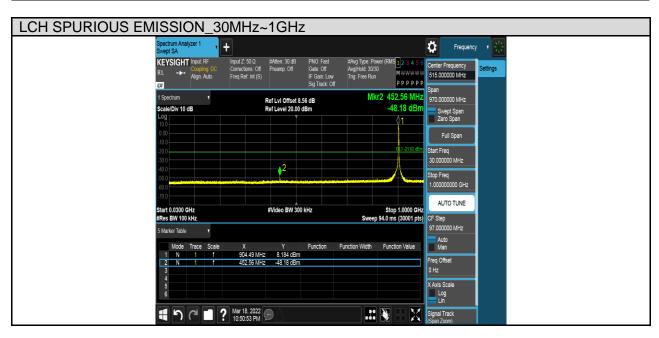
Test Channel	Result	Verdict
LCH	Refer to the Test Graph	PASS
MCH	Refer to the Test Graph	PASS
HCH	Refer to the Test Graph	PASS



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## **TEST GRAPHS**

Channel	Verdict
LCH	PASS

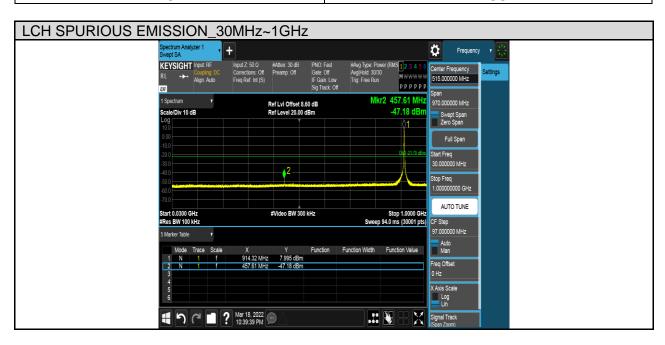






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Channel	Verdict
MCH	PASS

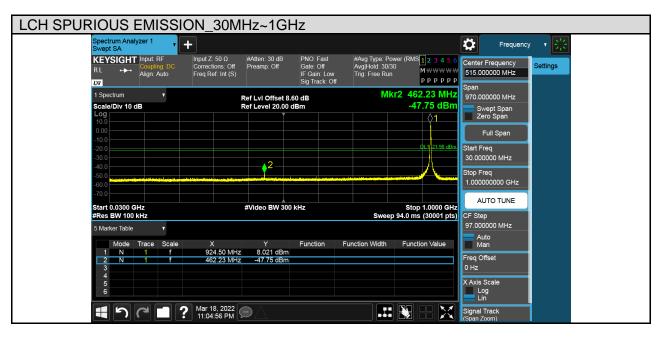






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Channel	Verdict
HCH	PASS







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# 9. RADIATED TEST RESULTS

#### LIMITS

Please refer to CFR 47 FCC §15.205 and §15.209

Radiation Disturbance Test Limit for FCC (Class B) (9KHz-1GHz)

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
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

Note: 1) At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

(2) At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). This paragraph (f) shall not apply to Access BPL devices operating below 30 MHz.



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# Radiation Disturbance Test Limit for FCC (Above 1G)

Frequency (MHz)	dB(uV/m) (at 3 meters)	
Frequency (wiriz)	Peak	Average
Above 1000	74	54

# 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			

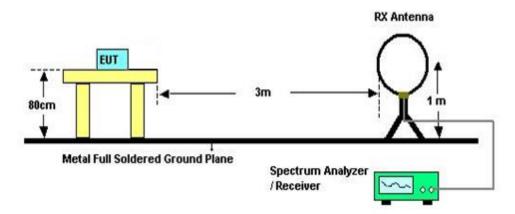
Note:  $^1$ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.  $^2$ Above 38.6



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#### **TEST SETUP AND PROCEDURE**

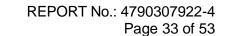
#### Below 30MHz



## The setting of the spectrum analyser

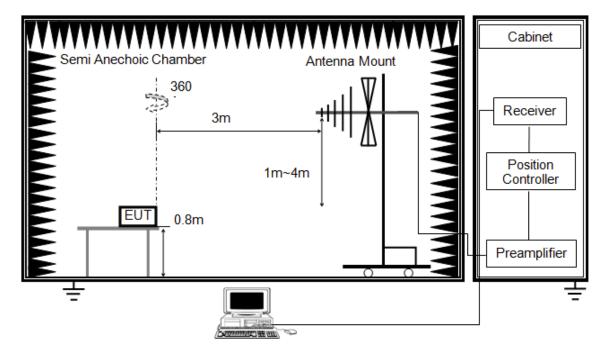
RBW	200 Hz (From 9kHz to 0.15MHz)/ 9 kHz (From 0.15MHz to 30MHz)
VBW	200 Hz (From 9kHz to 0.15MHz)/ 9 kHz (From 0.15MHz to 30MHz)
Sweep	Auto
Detector	Peak/QP/Average
Trace	Max hold

- 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 0.8 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. 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. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
- 6. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.





Below 1G



The setting of the spectrum analyser

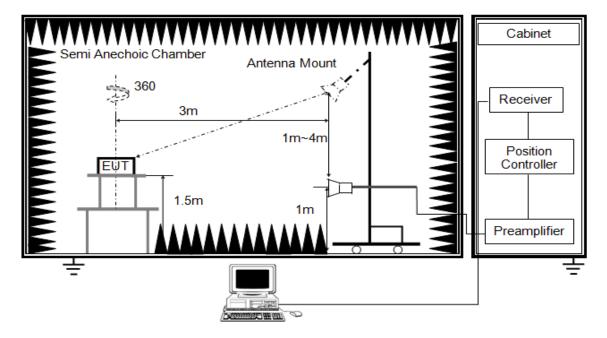
RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

- 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 0.8 meter 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 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. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
- 6. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)



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Above 1G



The setting of the spectrum analyser

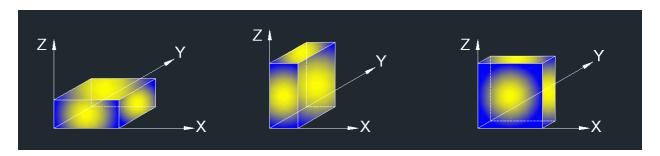
RBW	1 MHz
IVBW	PEAK: 3 MHz AVG: See note6
Sweep	Auto
Detector	Peak
Trace	Max hold

- 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 (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 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 set VBW ≤RBW/100, but not less than list in section 7.1 with average detector, max hold to run for at least 50 traces for average measurements.
- 7. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)



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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.

Note 2: For the product, there are 14 transmission modules with two type antennas, but only one module of the modules transmits at one time, the result of the Loop Antenna was worse case and recorded in the report.

#### **TEST ENVIRONMENT**

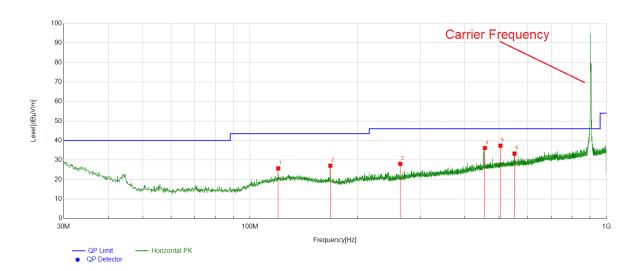
Temperature	20°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	DC 4.2V



9.1. SPURIOUS EMISSIONS BELOW 1 GHz

# SPURIOUS EMISSIONS 30MHz TO 1GHz (WORST-CASE CONFIGURATION)

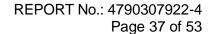
Channel	Polarization	Verdict
HCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	119.928	5.27	20.47	25.74	43.50	-17.76	Peak
2	167.9478	8.21	18.93	27.14	43.50	-16.36	Peak
3	263.9874	8.19	19.91	28.10	46.00	-17.90	Peak
4	455.9696	10.68	25.51	36.19	46.00	-9.81	Peak
5	503.9894	10.98	26.40	37.38	46.00	-8.62	Peak
6	552.0092	6.37	26.97	33.34	46.00	-12.66	Peak

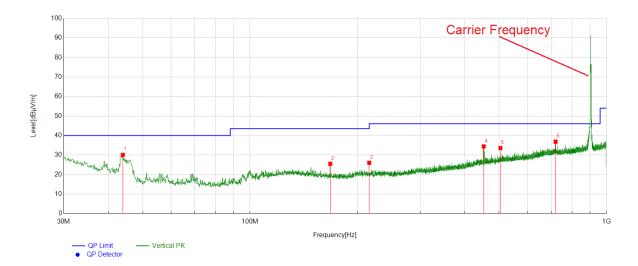
Note: 1. Result Level = Read Level + Correct Factor.

- 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.





Channel	Polarization	Verdict
HCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	43.9694	11.75	18.36	30.11	40.00	-9.89	Peak
2	167.9478	6.62	18.93	25.55	43.50	-17.95	Peak
3	215.9676	6.29	19.76	26.05	43.50	-17.45	Peak
4	452.4772	9.00	25.43	34.43	46.00	-11.57	Peak
5	503.9894	7.24	26.40	33.64	46.00	-12.36	Peak
6	720.03	7.24	29.63	36.87	46.00	-9.13	Peak

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.

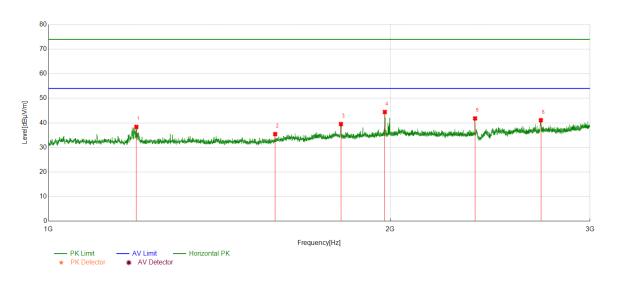
Note: All constructions and test modes have been tested, only the worst data record in the report.



9.2. SPURIOUS EMISSIONS (1GHz~3GHz)

# **HARMONICS AND SPURIOUS EMISSIONS**

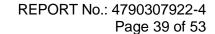
Channel	Polarization	Verdict
LCH	Horizontal	PASS



# PK Result:

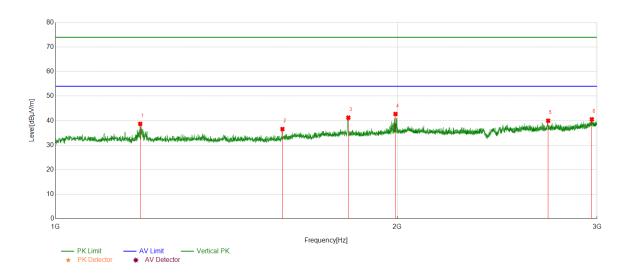
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1195.0244	44.99	-6.61	38.38	74.00	-35.62	Peak
2	1583.823	41.36	-5.92	35.44	74.00	-38.56	Peak
3	1809.8512	44.01	-4.48	39.53	74.00	-34.47	Peak
4	1978.3723	47.86	-3.43	44.43	74.00	-29.57	Peak
5	2375.922	44.60	-2.78	41.82	74.00	-32.18	Peak
6	2715.2144	42.50	-1.40	41.10	74.00	-32.90	Peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





Channel	Polarization	Verdict
LCH	Vertical	PASS

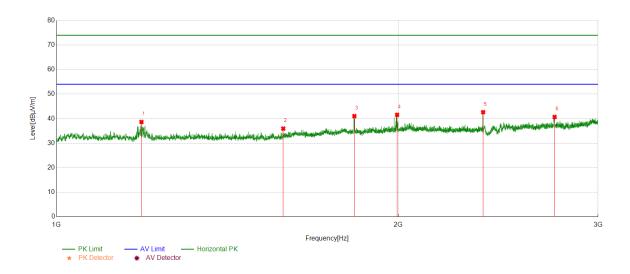


111100	ait.						
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1187.5234	45.25	-6.55	38.70	74.00	-35.30	Peak
2	1584.5731	42.46	-5.88	36.58	74.00	-37.42	Peak
3	1811.3514	45.68	-4.45	41.23	74.00	-32.77	Peak
4	1993.1241	45.92	-3.20	42.72	74.00	-31.28	Peak
5	2716.7146	41.39	-1.41	39.98	74.00	-34.02	Peak
6	2968.4961	40.21	0.35	40.56	74.00	-33.44	Peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

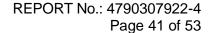


Channel	Polarization	Verdict
MCH	Horizontal	PASS



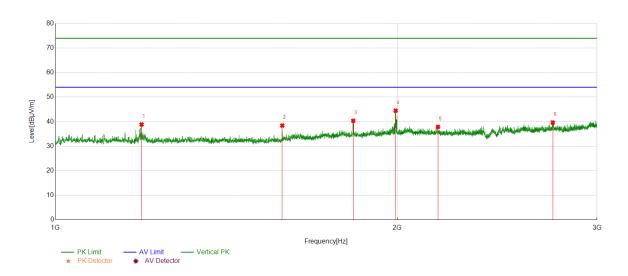
111100	ait.						
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1188.0235	45.20	-6.55	38.65	74.00	-35.35	Peak
2	1584.073	41.85	-5.91	35.94	74.00	-38.06	Peak
3	1829.8537	45.16	-4.12	41.04	74.00	-32.96	Peak
4	1995.6245	44.72	-3.16	41.56	74.00	-32.44	Peak
5	2376.172	45.42	-2.78	42.64	74.00	-31.36	Peak
6	2746,9684	42.24	-1.54	40.70	74.00	-33.30	Peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



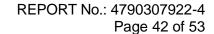


Channel	Polarization	Verdict
MCH	Vertical	PASS



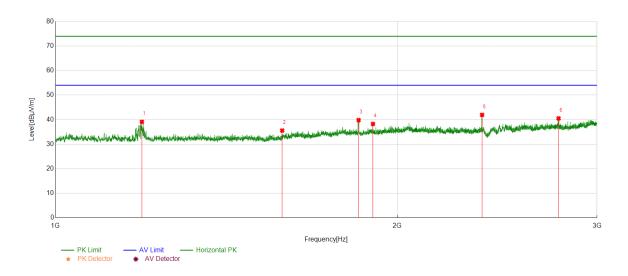
111100	ait.						
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1190.7738	45.42	-6.56	38.86	74.00	-35.14	Peak
2	1584.073	44.35	-5.91	38.44	74.00	-35.56	Peak
3	1829.3537	44.47	-4.12	40.35	74.00	-33.65	Peak
4	1993.8742	47.67	-3.19	44.48	74.00	-29.52	Peak
5	2172.3966	41.08	-3.20	37.88	74.00	-36.12	Peak
6	2742.4678	41.19	-1.55	39.64	74.00	-34.36	Peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



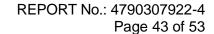


Channel	Polarization	Verdict		
HCH	Horizontal	PASS		



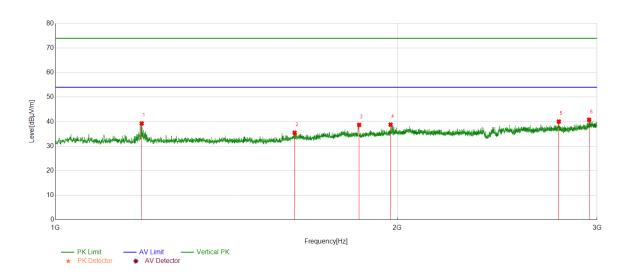
	1 10 Toodit.						
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1191.5239	45.71	-6.57	39.14	74.00	-34.86	Peak
2	1583.823	41.49	-5.92	35.57	74.00	-38.43	Peak
3	1849.3562	43.99	-4.16	39.83	74.00	-34.17	Peak
4	1904.113	41.90	-3.64	38.26	74.00	-35.74	Peak
5	2375.922	44.74	-2.78	41.96	74.00	-32.04	Peak
6	2774 7218	42 02	-1 50	40.52	74 00	-33 48	Peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





Channel	Polarization	Verdict
HCH	Vertical	PASS



1 K NOSait.							
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1191.0239	45.84	-6.56	39.28	74.00	-34.72	Peak
2	1624.328	40.82	-5.34	35.48	74.00	-38.52	Peak
3	1851.3564	42.85	-4.15	38.70	74.00	-35.30	Peak
4	1973.3717	42.24	-3.44	38.80	74.00	-35.20	Peak
5	2776.222	41.58	-1.52	40.06	74.00	-33.94	Peak
6	2951.994	40.94	-0.15	40.79	74.00	-33.21	Peak

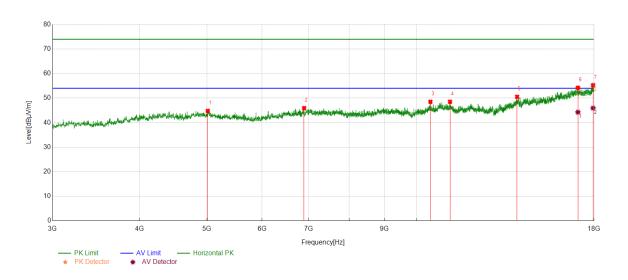
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



9.3. SPURIOUS EMISSIONS (3GHz~18GHz)

#### HARMONICS AND SPURIOUS EMISSIONS

Channel	Polarization	Verdict
LCH	Horizontal	PASS



# PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	5014.0018	39.12	5.67	44.79	74.00	-29.21	Peak
2	6896.7371	37.56	8.36	45.92	74.00	-28.08	Peak
3	10474.6843	37.67	10.83	48.50	74.00	-25.50	Peak
4	11176.022	37.10	11.40	48.50	74.00	-25.50	Peak
5	13955.1194	36.71	13.83	50.54	74.00	-23.46	Peak
6	17064.258	35.66	18.40	54.06	74.00	-19.94	Peak
7	17943.743	35.99	19.24	55.23	74.00	-18.77	Peak

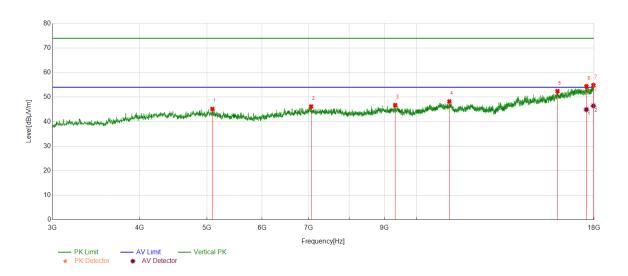
#### AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	17064.258	25.86	18.40	44.26	54.00	-9.74	AV
2	17943.743	26.69	19.24	45.93	54.00	-8.07	AV

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Channel	Polarization	Verdict
LCH	Vertical	PASS



I K Kesuit.							
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	5090.8864	39.89	5.31	45.20	74.00	-28.80	Peak
2	7058.0073	37.54	8.65	46.19	74.00	-27.81	Peak
3	9321.4152	37.81	8.94	46.75	74.00	-27.25	Peak
4	11151.644	36.88	11.37	48.25	74.00	-25.75	Peak
5	15946.6183	35.92	16.52	52.44	74.00	-21.56	Peak
6	17551.819	36.25	18.19	54.44	74.00	-19.56	Peak
7	17962.4953	35.83	19.17	55.00	74.00	-19.00	Peak

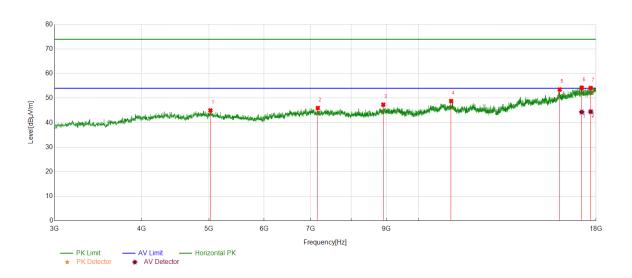
#### AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	17551.819	26.73	18.19	44.92	54.00	-9.08	AV
2	17962.4953	27.27	19.17	46.44	54.00	-7.56	AV

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Channel	Polarization	Verdict
MCH	Horizontal	PASS



1 K Kesuit.							
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	5025.2532	39.25	5.75	45.00	74.00	-29.00	Peak
2	7168.6461	37.46	8.51	45.97	74.00	-28.03	Peak
3	8903.2379	38.64	8.69	47.33	74.00	-26.67	Peak
4	11144.143	37.40	11.42	48.82	74.00	-25.18	Peak
5	15957.8697	37.00	16.51	53.51	74.00	-20.49	Peak
6	17167.3959	36.33	17.87	54.20	74.00	-19.80	Peak
7	17686.8359	35.68	18.27	53.95	74.00	-20.05	Peak

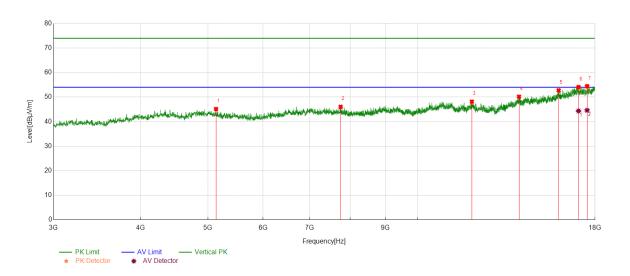
#### AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	17167.3959	26.45	17.87	44.32	54.00	-9.68	AV
2	17686.8359	26.21	18.27	44.48	54.00	-9.52	AV

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Channel	Polarization	Verdict
MCH	Vertical	PASS



1 K Kesuit.							
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	5135.892	39.80	5.35	45.15	74.00	-28.85	Peak
2	7757.4697	38.15	7.90	46.05	74.00	-27.95	Peak
3	11974.8719	36.41	11.74	48.15	74.00	-25.85	Peak
4	13996.3745	36.04	14.13	50.17	74.00	-23.83	Peak
5	15957.8697	36.24	16.51	52.75	74.00	-21.25	Peak
6	17041.7552	35.67	18.30	53.97	74.00	-20.03	Peak
7	17533.0666	36.47	17.84	54.31	74.00	-19.69	Peak

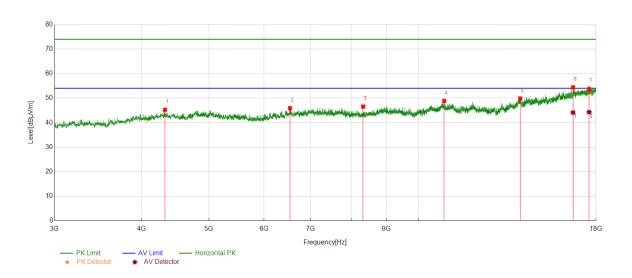
#### AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	17041.7552	26.07	18.30	44.37	54.00	-9.63	AV
2	17533.0666	26.79	17.84	44.63	54.00	-9.37	AV

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Channel	Polarization	Verdict
HCH	Horizontal	PASS



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No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	4323.9155	40.53	4.72	45.25	74.00	-28.75	Peak
2	6538.5673	38.10	7.82	45.92	74.00	-28.08	Peak
3	8329.4162	39.07	7.48	46.55	74.00	-27.45	Peak
4	10890.9864	37.25	11.60	48.85	74.00	-25.15	Peak
5	14005.7507	35.61	14.24	49.85	74.00	-24.15	Peak
6	16679.835	36.47	17.90	54.37	74.00	-19.63	Peak
7	17591.1989	36.18	17.50	53.68	74.00	-20.32	Peak

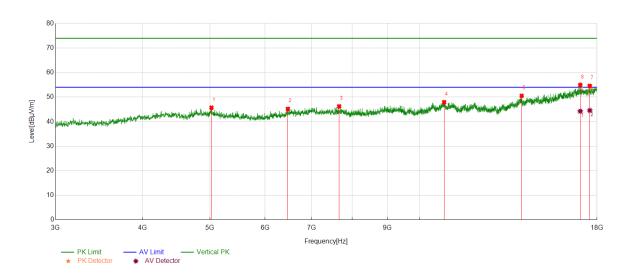
#### AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	16679.835	26.23	17.90	44.13	54.00	-9.87	AV
2	17591.1989	26.79	17.50	44.29	54.00	-9.71	AV

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



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Channel	Polarization	Verdict
HCH	Vertical	PASS



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No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	5025.2532	39.94	5.75	45.69	74.00	-28.31	Peak
2	6471.0589	37.78	7.42	45.20	74.00	-28.80	Peak
3	7667.4584	38.21	8.03	46.24	74.00	-27.76	Peak
4	10853.4817	36.26	11.68	47.94	74.00	-26.06	Peak
5	14028.2535	35.98	14.56	50.54	74.00	-23.46	Peak
6	17028.6286	36.59	18.42	55.01	74.00	-18.99	Peak
7	17572.4466	36.18	18.18	54.36	74.00	-19.64	Peak

#### AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	17028.6286	25.83	18.42	44.25	54.00	-9.75	AV
2	17572.4466	26.38	18.18	44.56	54.00	-9.44	AV

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

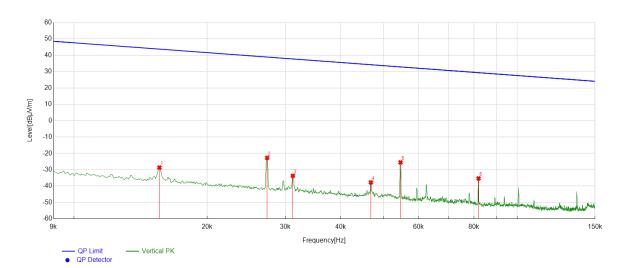


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# 9.4. SPURIOUS EMISSIONS BELOW 30MHz

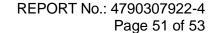
# SPURIOUS EMISSIONS Below 30MHz (WORST CASE CONFIGURATION-FACE ON)

Channel	Frequency Range	Verdict
HCH	9kHz~150kHz	PASS



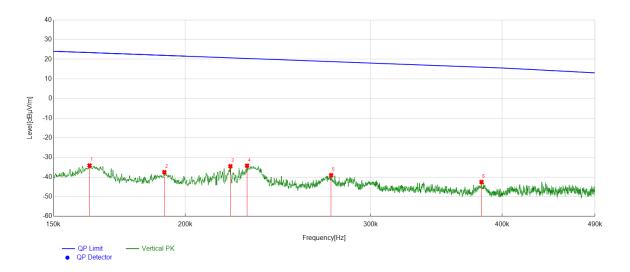
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.0156	33.24	-61.89	-28.65	43.75	-72.40	Peak
2	0.0273	39.05	-61.77	-22.72	38.87	-61.59	Peak
3	0.0312	28.04	-61.74	-33.70	37.71	-71.41	Peak
4	0.0468	24.02	-61.74	-37.72	34.19	-71.91	Peak
5	0.0546	36.26	-61.75	-25.49	32.86	-58.35	Peak
6	0.0819	26.53	-61.83	-35.30	29.33	-64.63	Peak

- 2. Result 300m= Result 3m-80 dBuV/m
- 3. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.



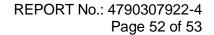


Channel	Frequency Range	Verdict
HCH	150kHz~490kHz	PASS



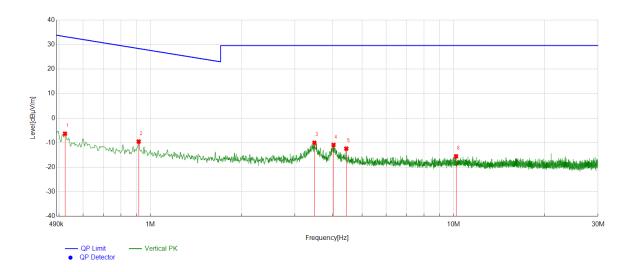
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.1623	27.75	-61.85	-34.10	23.40	-57.50	Peak
2	0.1911	24.36	-61.86	-37.50	21.98	-59.48	Peak
3	0.2208	27.39	-61.87	-34.48	20.72	-55.20	Peak
4	0.229	27.68	-61.87	-34.19	20.40	-54.59	Peak
5	0.2752	22.84	-61.89	-39.05	18.81	-57.86	Peak
6	0.3823	19.39	-61.90	-42.51	15.95	-58.46	Peak

- 2. Result 300m= Result 3m-80 dBuV/m
- 3. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.





Channel	Frequency Range	Verdict
HCH	150kHz~490kHz	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.5225	15.58	-21.89	-6.31	33.24	-39.55	Peak
2	0.915	12.35	-21.87	-9.52	28.38	-37.90	Peak
3	3.4767	11.74	-21.75	-10.01	29.54	-39.55	Peak
4	4.0197	10.85	-21.74	-10.89	29.54	-40.43	Peak
5	4.43	9.33	-21.74	-12.41	29.54	-41.95	Peak
6	10.1998	6.06	-21.59	-15.53	29.54	-45.07	Peak

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

- 2. Result 30m= Result 3m-40 dBuV/m
- 3. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

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



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# 10. 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**