

Report No.: SUCR250400035504

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## **TEST REPORT**

**Application No.:** SUCR2504000355MO METICOMM PTE. LTD. **Applicant:** 

15 UPPER CIRCULAR ROAD, #06-01, SINGAPORE 058413 **Address of Applicant:** 

METICOMM PTE. LTD. Manufacturer:

Address of Manufacturer: 15 UPPER CIRCULAR ROAD, #06-01, SINGAPORE 058413

**EUT Description:** IoT Module

MQM744-0-50-0B.MQM744-0-50-0U.MQM744-0-50-0P. Model No.:

MQM748-0-50-0B,MQM748-0-50-0U,MQM748-0-50-0P

Please refer to section 2 of this report which indicates which model was

actually tested and which were electrically identical.

Trade Mark: Meticomm

FCC ID: 2BQY7-M7400

Standards: FCC 47 CFR Part 2, Subpart J

FCC 47 CFR Part 15, Subpart C

Date of Receipt: June 7, 2025

**Date of Test:** June 8, 2025 to June 16, 2025

Date of Issue: July 3, 2025

PASS \* Test Result:

In the configuration tested, the EUT detailed in this report complied with the standards specified above.

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SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd. South of No. 6 Plant, No. 1, RunSheng Road, Suzhou Industrial Park, Wireless Laboratory

Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 215000

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## Version

	Revision Record					
Version	Description	Date	Remark			
01	Original	July 3, 2025	/			

Authorized for issue by:		
Tested By	Hayley Zhang  Hayley Zhang/Project Manager	
Approved By	Cloud Peng	
	Cloud Peng/Technical Manager	



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## 1 Test Summary

Test Item	FCC Rule No.	Test Method	Test Result	Result
Antenna Requirement	15.203/15.247(b)		Clause 3.1	PASS
AC Power Line Conducted Emission	15.207	ANSI C63.10 2020 Section 6.2	Clause 3.2	PASS
Conducted Output Power	15.247 (b)(3)	ANSI C63.10 2020 Section 7.8.5	Clause 3.4	PASS
DTS (6 dB) Bandwidth & 99% Occupied Bandwidth	15.247 (a)(2)	ANSI C63.10 2020 Section 11.8 / 6.9	Clause 3.5	PASS
Power Spectral Density	15.247 (e)	ANSI C63.10 2020 Section 11.10	Clause 3.6	PASS
Band-edge for RF Conducted Emissions	15.247(d)	ANSI C63.10 2020 Section 11.11	Clause 3.7	PASS
RF Conducted Spurious Emissions	15.247(d)	ANSI C63.10 2020 Section 11.11	Clause 3.8	PASS
Radiated Spurious Emissions	15.205/15.209	ANSI C63.10 2020 Section 11.12	Clause 3.9	PASS
Restricted bands around fundamental frequency (Radiated Emission)	15.205/15.209	ANSI C63.10 2020 Section 11.12	Clause 3.10	PASS



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#### **General Information** 2

#### 2.1 Details of Client

Applicant:	METICOMM PTE. LTD.
Address of Applicant:	15 UPPER CIRCULAR ROAD, #06-01, SINGAPORE 058413
Manufacturer:	METICOMM PTE. LTD.
Address of Manufacturer:	15 UPPER CIRCULAR ROAD, #06-01, SINGAPORE 058413

#### 2.2 Test Location

Company:	SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.
Address:	South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone
Post code:	215000
Test engineer:	Tizzy Song

#### 2.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### • A2LA (Certificate No. 6336.01)

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.

#### • Innovation, Science and Economic Development Canada

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0120.

IC#: 27594.

#### • FCC -Designation Number: CN1312

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized as an

accredited testing laboratory. Designation Number: CN1312.

Test Firm Registration Number: 717327

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### 2.4 General Description of EUT

Hardware Version:	N/A
Software Version:	N/A
Power Supply:	3.3V
Operation Frequency:	2400MHz~2483.5MHz
Modulation Type:	O-QPSK
Number of Channel:	16
Dotoo Typo*:	⊠Provided by client
Rates Type*:	250kbps
Antenna Type:	MQM744-0-50-0B, MQM748-0-50-0B: PCB Antenna MQM744-0-50-0U,MQM744-0-50-0P,MQM748-0-50-0U,MQM748-0-50- 0P: Dipole Antenna
Antonno Coin:	MQM744-0-50-0B, MQM748-0-50-0B: 2.52dBi MQM744-0-50-0U,MQM744-0-50-0P,MQM748-0-50-0U,MQM748-0-50- 0P: 3.37dBi
Antenna Gain:	Note: The antenna gain are derived from the gain information report provided by the manufacturer.
RF Cable:	1dB

Note: \*Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, SGS is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.

The differences between models are listed below, while the other parts are completely identical. Based on the differences, complete testing was conducted for MQM744-0-50-0U, and RSE was tested for MQM744-0-50-0B.

Remark:

As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.



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Model	MQM744-0-50-0U	MQM744-0-50-0B	MQM744-0-50-0P	
Antenna	1 types: Dipole	1 type: PCB	1 types: Dipole	
Impedance	C21=1.2pF C20=1.5pF	C21=1.2pF C20=1.5pF	C21=1.8pF C20=2pF	
Inductor	L2=2.7nH	L2=3nH	L2=2.2nH	
Support platform system and feature	Support external antenna with antenna connect on module	Support integrated PCB antenna	Support external antenna with antenna connect on host platform. Module support RF output pins in the module package.	

Model	MQM748-0-50-0U	MQM748-0-50-0B	MQM748-0-50-0P	
Antenna	1 types: Dipole	1 type: PCB	1 types: Dipole	
Impedance	C21=1.2pF C20=1.5pF	C21=1.2pF C20=1.5pF	C21=1.8pF C20=2pF	
Inductor	L2=2.7nH	L2=3nH	L2=2.2nH	
Support platform system and feature	Support external antenna with antenna connect on module	Support integrated PCB antenna	Support external antenna with antenna connect on host platform. Module support RF output pins in the module package.	

Antenna Type	Antenna Part No.	Freq.	Peak Antenna Gain (dBi)
PCB Antenna	RFIQM0744010NB001	2.40.11-	2.52
Dipole Antenna	RFPCA521010EMABY01	2.4G Hz	3.37

#### Remark:

- 1. Pre-scan was done on the above antennas, measurements were demonstrated by using the antenna with the highest gain as the worst case scenarios.
- 2. Antenna information is provided by the applicant.



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	Operation Frequency of each channel						
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2405MHz	4	2425MHz	8	2445MHz	12	2465MHz
1	2410MHz	5	2430MHz	9	2450MHz	13	2470MHz
2	2415MHz	6	2435MHz	10	2455MHz	14	2475MHz
3	2420MHz	7	2440MHz	11	2460MHz	15	2480MHz

#### Remark:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The Lowest channel(CH0)	2405MHz
The Middle channel(CH7)	2440MHz
The Highest channel(CH15)	2480MHz

#### 2.5 Test Environment

Environment Parameter	101 kPa Selected \	Values During Tests
Relative Humidity	44-46 % F	RH Ambient
Value	Temperature(℃)	Voltage(V)
NTNV	22~23	3.3
Demonto		

Remark:

NV: Normal Voltage NT: Normal Temperature

### 2.6 Description of Support Units

The EUT has been tested as an independent unit.



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# 3 Equipment List

Item	Equipment	Manufacturer	Model	Inventory No	Cal Date	Cal. Due Date
Condu	cted Emission at Mains Te	rminals	<u>'</u>	•	1	
1	EMI Test Receive	R&S	ESR7	SUWI-01-10-01	1/15/2025	1/14/2026
2	LISN	R&S	ENV216	SUWI-01-19-03	2025/5/8	2026/5/7
3	LISN	Schwarzbeck	ENV216	SUWI-01-19-04	2025/5/8	2026/5/7
6	Test Software	Tonscend	JS32-CE_4.0.0.2	SUWI-02-09-05	N.C.R	N.C.R
RF Con	ducted Test	T	1			
1	Shielding Room	Brilliant-emc	N/A	SUWI-04-08-01	11/9/2022	11/8/2025
2	, , , , , , , , , , , , , , , , , , ,	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	2025/5/8	2026/5/7
9	Signal Analyzer	KEYSIGHT	N9020A	SUWI-01-02-15	11/21/2024	11/20/2025
7	MXG Vector signal genitor	KEYSIGHT	N5182B	SUWI-01-38-01	1/15/2025	1/14/2026
8	Signal Generator  MXG Vector Signal	ROHDE&SCHWARZ	SMW200A	SUWI-01-07-08	3/27/2025	3/26/2026
10	Generator	ROHDE&SCHWARZ	SMR20	SUWI-01-33-01	3/17/2025	3/16/2026
3	Wideband Radio Communication Tester	ROHDE&SCHWARZ	CMW500	SUWI-01-16-13	2025/5/8	2026/5/7
11	Wideband Radio Communication Test Ststion	Anritsu	MT8000A	SUWI-01-34-02	11/19/2024	11/18/2025
12	Wideband Radio Communication Tester	Anritsu	MT8821C	SUWI-01-26-03	11/19/2024	11/18/2025
5	Power meter	Anritsu	ML2495A	SUWI-01-31-01	11/19/2024	11/18/2025
6	Pulse power sensor	Anritsu	MA2411B	SUWI-01-32-01	11/19/2024	11/18/2025
4	DC Power Supply	HYELEC	HY3005B	SUWI-01-18-01	1/15/2025	1/14/2026
13	Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-07	2/13/2025	2/12/2026
14	Temperature Chamber	GIANT FORCE	ICT-017-40-SP- SD	SUWI-01-13-02	2025/5/8	2026/5/7
15	Measurement Software	TST	TST 272 V2.0	SUWI-03-55-03	NCR	NCR
RF Rad	iated Test					
1	Semi-Anechoic Chamber	Brilliant-emc	N/A	SUWI-04-02-01	6/3/2023	6/2/2026
4	Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	1/20/2025	1/19/2026
5	Signal Analyzer	KEYSIGHT	N9020A	SUWI-01-02-09	11/21/2024	11/20/2025
6	Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	1/15/2025	1/14/2026
8	Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	VULB 9168	SUWI-01-11-04	8/22/2024	8/21/2026
9	Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	BBHA 9120D	SUWI-01-11-02	5/7/2025	5/6/2027
10	Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	BBHA 9170	SUWI-01-11-03	5/7/2025	5/6/2027
11	Active Loop Antenna	SCHWRZBECK MESS- ELEKTRONIK	FMZB 1519B	SUWI-01-21-01	5/7/2025	5/6/2027
12	Amplifier	Tonscend	TAP9K3G40	SUWI-01-14-01	1/16/2025	1/15/2026
13	Amplifier	Tonscend	TAP01018050	SUWI-01-14-02	1/16/2025	1/15/2026
14	Amplifier	Tonscend	TAP18040048	SUWI-01-14-03	1/20/2025	1/19/2026
15	Wideband Radio Communication Tester	Anritsu	MT8820C	SUWI-01-26-01	2025/5/8	2026/5/7
16	Wideband Radio Communication Tester	Anritsu	MT8821C	SUWI-01-26-03	11/19/2024	11/18/2025
17	Wideband Radio Communication Tester	ROHDE&SCHWARZ	CMW500	SUWI-01-16-09	2025/5/8	2026/5/7
18	Radio Communication Analyzer	StarPoint	SP9500E	SUWI-01-28-02	11/19/2024	11/18/2025



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3	Signal Generator	ROHDE&SCHWARZ	SMB100A	SUWI-01-08-01	2025/5/8	2026/5/7
7	DC Power Supply	HYELEC	HY3005B	SUWI-01-18-01	1/15/2025	1/14/2026
2	Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-05	2/13/2025	2/12/2026
19	Measurement Software	Tonscend	JS32-RSE 4.0.0.1	SUWI-02-09-06	NCR	NCR

Remark: NCR=No Calibration Requirement.



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### 4 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	±0.54dB
2	RF power density, conducted	±1.03dB
3	Spurious emissions, conducted	±0.54dB
4	Radio Frequency	±1.0 %
5	Duty Cycle	±0.37%
6	Occupied Bandwidth	±1.0 %
7	Conduction Emission	± 2.90dB (150kHz to 30MHz)
		± 3.13dB (9k -30MHz)
0	Padiated Emission	± 4.80dB (30M -1GHz)
8	Radiated Emission	± 4.80dB (1GHz to 18GHz)
		± 4.80dB (Above 18GHz)

#### Remark:

The U<sub>lab</sub> (lab Uncertainty) is less than U<sub>cispr/ETSI</sub> (CISPR/ETSI Uncertainty), so the test results

<sup>-</sup> compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;

<sup>-</sup> non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



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#### 5 Test results and Measurement Data

#### 5.1 Antenna Requirement

Standard requirement: 47 CFR Part 15C Section 15.203 /247(b)

15.203 requirement:

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, 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.

15.247(b) (4) requirement:

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.

The antenna is PCB Antenna and dipole Antenna and no consideration of replacement. The best case gain of the antenna is 2.52dBi for PCB Antenna, 3.37dBi for Dipole Antenna

#### Note:

The antenna gain are derived from the gain information report provided by the manufacturer. Remark:

As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability reliability or/and integrity of the information.



Test Mode:

# SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

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### 5.2 AC Power Line Conducted Emissions

Test Requirement:	47 CFR Part 15C Section	n 15.207	
Test Method:	ANSI C63.10: 2020 Sec	tion 6.2	
Test Frequency Range:	150kHz to 30MHz		
Receiver Setup:	RBW = 9kHz, VBW = 30	)kHz	
Limit:	Fragues av range (MIII)	Limit (d	lBuV)
	Frequency range(MHz)	Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
	* Decreases with the log	garithm of the frequency.	
Test Procedure:	room.  2) The EUT was conn Impedance Stabilizar impedance. The proconnected to a secon plane in the same multiple socket outle single LISN provided.  3) The tabletop EUT was ground reference plane placed on the horizon the EUT shall be 0 vertical ground reference plane. The unit under test and mounted on top of the the closest points of and associated equip 5) In order to find the mand all of the interfal	ected to AC power source tion Network) which provides ower cables of all other und LISN 2, which was bonded way as the LISN 1 for the t strip was used to connect mile the rating of the LISN was not as placed upon a non-metall ane. And for floor-standing arreated ground reference plane. The LISN 1 was placed with a vertical ground reference plane was bonded to be LISN 1 was placed 0.8 m for the LISN 1 was placed 0.8 m for the LISN 1 and the EUT. A soment was at least 0.8 m from the was at least 0.8 m from the maximum emission, the relative ce cables must be changed as	through a LISN 1 (Line a $50\Omega/50\mu\text{H} + 5\Omega$ linear units of the EUT were of to the ground reference unit being measured. A nultiple power cables to a cot exceeded. It is table 0.8m above the rangement, the EUT was been a considered to the horizontal ground from the boundary of the exerce plane for LISNs are distance was between all other units of the EUT in the LISN 2.
Test Setup:	Shielding Room  AC Mains  LISN1	800cm	Test Receiver

Transmitting with GFSK modulation.



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	Adapter + Transmitting mode.
Instruments Used:	Refer to section 3 for details.
Test Results:	Pass



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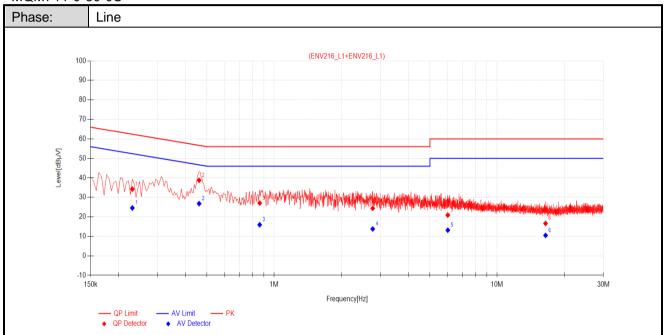
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#### Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

#### MQM744-0-50-0U



Final	Data List										
NO	Frequenc y [MHz]	Facto r [dB]	QP Reading [dBµV] True QP Reading[dBµV	QP Value [dBµV ]	QP Limit [dBµV ]	QP Margi n [dB]	AV Reading [dBµV] True AV Reading[dBµV]	AV Value [dBµV ]	AV Limit [dBµV ]	AV Margi n [dB]	Verdic t
1	0.2310	10.07	24.16	34.23	62.41	28.18	14.49	24.56	52.41	27.85	PASS
2	0.4605	10.06	28.72	38.78	56.68	17.90	16.72	26.78	46.68	19.90	PASS
3	0.8610	10.01	17.07	27.08	56.00	28.92	5.94	15.95	46.00	30.05	PASS
4	2.7690	9.83	14.54	24.37	56.00	31.63	3.96	13.79	46.00	32.21	PASS
5	6.0135	9.82	11.08	20.90	60.00	39.10	3.33	13.15	50.00	36.85	PASS
6	16.5165	9.78	6.85	16.63	60.00	43.37	0.70	10.48	50.00	39.52	PASS

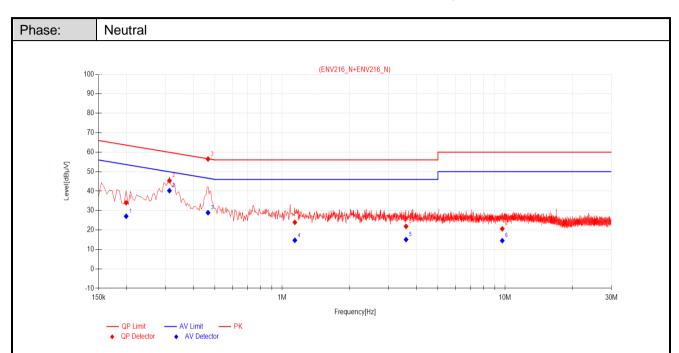
#### Remark

- 1. The following Quasi-Peak and Average measurements were performed on the EUT:
- 2. Value =Reading[dBµV] + Factor(Lisn factor[dB] + cable loss[dB]).
- 3. Margin = Limit[dBµV] Value[dBµV]



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Final	Data List										
NO	Frequenc y [MHz]	Facto r [dB]	QP Reading [dBµV] True QP Reading[dBµV	QP Value [dBµV ]	QP Limit [dBµV ]	QP Margi n [dB]	AV Reading [dBμV] True AV Reading[dBμV]	AV Value [dBµV ]	AV Limit [dBµV ]	AV Margi n [dB]	Verdic t
1	0.1995	10.08	23.95	34.03	63.63	29.60	16.96	27.04	53.63	26.59	PASS
2	0.3120	10.07	35.27	45.34	59.92	14.58	30.14	40.21	49.92	9.71	PASS
3	0.4650	10.06	46.40	56.46	56.60	0.14	18.83	28.89	46.60	17.71	PASS
4	1.1400	9.95	13.96	23.91	56.00	32.09	4.75	14.70	46.00	31.30	PASS
5	3.5970	9.86	11.98	21.84	56.00	34.16	5.22	15.08	46.00	30.92	PASS
6	9.7215	9.78	10.82	20.60	60.00	39.40	4.75	14.53	50.00	35.47	PASS

#### Remark

- 1. The following Quasi-Peak and Average measurements were performed on the EUT:
- 2. Value =Reading[dBµV] + Factor(Lisn factor[dB] + cable loss[dB]).
- 3. Margin = Limit[ $dB\mu V$ ] Value[ $dB\mu V$ ]



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## 5.3 Duty Cycle

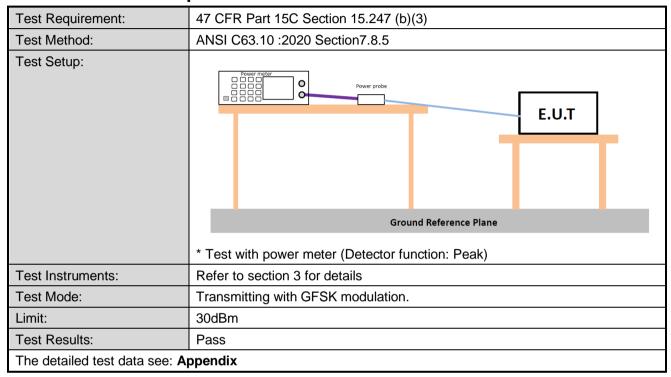
The detailed test data see: Appendix



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### 5.4 Conducted Output Power

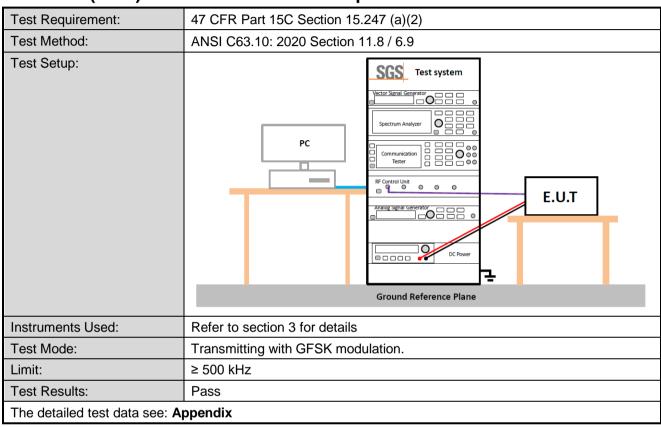




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### 5.5 DTS (6 dB) Bandwidth & 99% Occupied Bandwidth

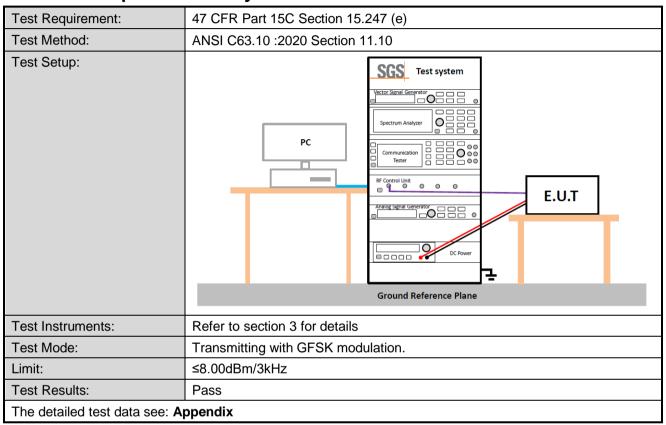




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### 5.6 Power Spectral Density

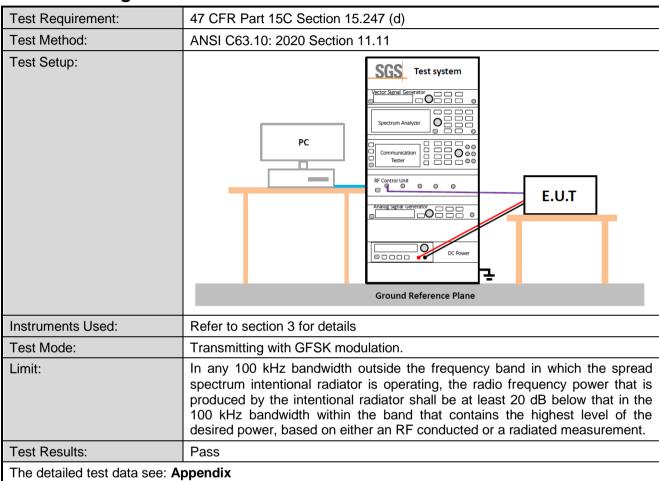




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#### 5.7 Band-edge for RF Conducted Emissions

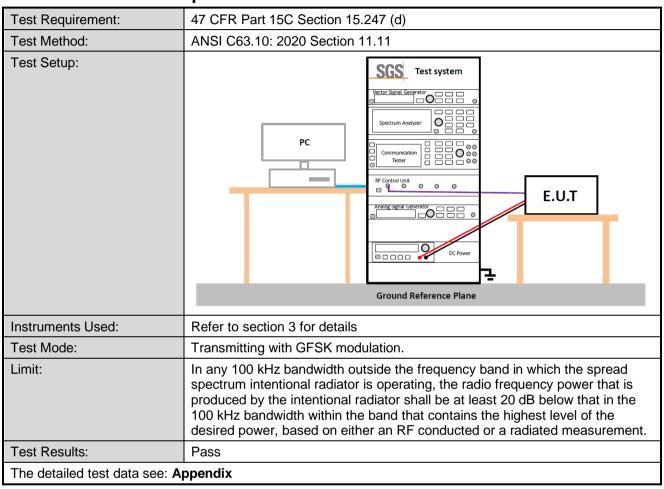




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### 5.8 RF Conducted Spurious Emissions





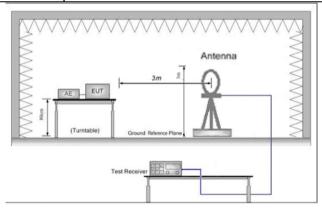
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### 5.9 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15C Section	n 15.209 and 15.2	05		
Test Method:	ANSI C63.10 :2020 Sec	tion 11.12			
Test Site:	Measurement Distance:	3m (Semi-Anecho	ic Chamber)		
Test Frequency:	9kHz ~ 25GHz				
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F(kHz)	-	=	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	=	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
	Remark: 15.35(b),Unles emissions is 20dB above applicable to the equipmemission level radiated by	e the maximum pe ent under test. Thi	rmitted avera	age emission li	mit

Test Setup:



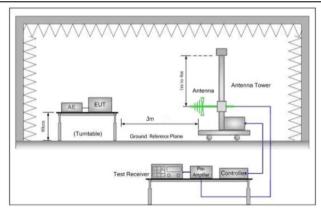


Figure 1. Below 30MHz

Figure 2. 30MHz to 1GHz

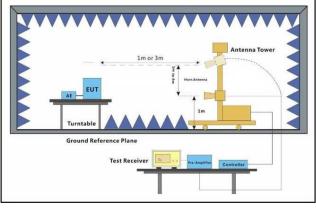


Figure 3. Above 1 GHz



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#### Test Procedure:

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation
   (Distance from antenna to EUT is 1m for measurements >18GHz).
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters(for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. Test the EUT in the lowest channel, the middle channel ,the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case.
- i. Repeat above procedures until all frequencies measured was complete.
- j. The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported
- k. The disturbance above 18GHz was very low, and the harmonics were the highest point could be found when testing, so only the harmonics had been displayed.
- At a measurement distance of 1 meter the limit line was increased by 20\*LOG(3/1) = 9.54 dB.

#### **Test Configuration:**

Measurements below 30MHz

- RBW = 10 kHz
- VBW = 30 kHz
- Detector = Peak & Average & Quasi-peak
- Trace mode = max hold

Measurements Below 1000MHz

- RBW = 120 kHz
- VBW = 300 kHz
- Detector = Peak
- Trace mode = max hold

Peak Measurements Above 1000 MHz

- RBW = 1 MHz
- VBW ≥ 3 MHz
- Detector = Peak
- Sweep time = auto
- Trace mode = max hold

Average Measurements Above 1000MHz

- RBW = 1 MHz
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
- VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.



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Exploratory Test Mode:	Transmitting with GFSK modulation. Charge + Transmitting mode.
Final Test Mode:	Transmitting with GFSK modulation.  Pretest the EUT at Charge + Transmitting mode,  For below 1GHz part, through pre-scan, the worst case is the lowest channel. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 3 for details
Test Results:	Pass
The detailed test data	see: Appendix



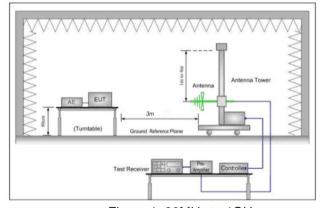
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#### 5.10 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15C Section 15	5.209 and 15.205	
Test Method:	ANSI C63.10: 2020 Section	11.12	
Test Site:	Measurement Distance: 3m	(Semi-Anechoic Cham	ber)
Limit:	Frequency	Limit (dBuV/m)	Remark
	30MHz-88MHz	40.0	Quasi-peak
	88MHz-216MHz	43.5	Quasi-peak
	216MHz-960MHz	46.0	Quasi-peak
	960MHz-1GHz	54.0	Quasi-peak
	Above 1GHz	54.0	Average Value
	Above IGHZ	74.0	Peak Value

#### Test Setup:



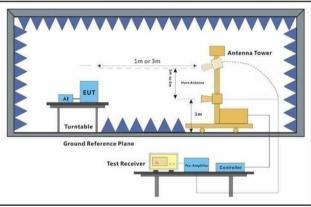


Figure 1. 30MHz to 1GHz

Figure 2. Above 1 GHz

#### Test Procedure:

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel
- n. Test the EUT in the lowest channel, the Highest channel
- i. The radiation measurements are performed in X, Y, Z axis positioning for



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Transmitting mode, And found the X axis positioning which it is worse case. j. Repeat above procedures until all frequencies measured was complete.  Measurements Below 1000MHz  • RBW = 120 kHz  • VBW = 300 kHz  • Detector = Peak  • Trace mode = max hold  Peak Measurements Above 1000 MHz  • RBW = 1 MHz  • VBW ≥ 3 MHz  • Detector = Peak  • Sweep time = auto  • Trace mode = max hold  Average Measurements Above 1000MHz  • RBW = 1 MHz  • VBW ≥ 1 MHz  • VBW = 10 Hz, when duty cycle is no less than 98 percent.  • VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum
Test Configuration:  Measurements Below 1000MHz  • RBW = 120 kHz  • VBW = 300 kHz  • Detector = Peak  • Trace mode = max hold  Peak Measurements Above 1000 MHz  • RBW = 1 MHz  • VBW ≥ 3 MHz  • Detector = Peak  • Sweep time = auto  • Trace mode = max hold  Average Measurements Above 1000MHz  • RBW = 1 MHz  • VBW = 1 MHz  • VBW = 1 MHz  • VBW = 10 Hz, when duty cycle is no less than 98 percent.  • VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum
<ul> <li>RBW = 120 kHz</li> <li>VBW = 300 kHz</li> <li>Detector = Peak</li> <li>Trace mode = max hold</li> <li>Peak Measurements Above 1000 MHz</li> <li>RBW = 1 MHz</li> <li>VBW ≥ 3 MHz</li> <li>Detector = Peak</li> <li>Sweep time = auto</li> <li>Trace mode = max hold</li> <li>Average Measurements Above 1000MHz</li> <li>RBW = 1 MHz</li> <li>VBW = 1 MHz</li> <li>VBW = 10 Hz, when duty cycle is no less than 98 percent.</li> <li>VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum</li> </ul>
<ul> <li>VBW = 300 kHz</li> <li>Detector = Peak</li> <li>Trace mode = max hold</li> <li>Peak Measurements Above 1000 MHz</li> <li>RBW = 1 MHz</li> <li>VBW ≥ 3 MHz</li> <li>Detector = Peak</li> <li>Sweep time = auto</li> <li>Trace mode = max hold</li> <li>Average Measurements Above 1000MHz</li> <li>RBW = 1 MHz</li> <li>VBW = 10 Hz, when duty cycle is no less than 98 percent.</li> <li>VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum</li> </ul>
<ul> <li>Detector = Peak</li> <li>Trace mode = max hold</li> <li>Peak Measurements Above 1000 MHz</li> <li>RBW = 1 MHz</li> <li>VBW ≥ 3 MHz</li> <li>Detector = Peak</li> <li>Sweep time = auto</li> <li>Trace mode = max hold</li> <li>Average Measurements Above 1000MHz</li> <li>RBW = 1 MHz</li> <li>VBW = 10 Hz, when duty cycle is no less than 98 percent.</li> <li>VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum</li> </ul>
<ul> <li>Trace mode = max hold Peak Measurements Above 1000 MHz</li> <li>RBW = 1 MHz</li> <li>VBW ≥ 3 MHz</li> <li>Detector = Peak</li> <li>Sweep time = auto</li> <li>Trace mode = max hold Average Measurements Above 1000MHz</li> <li>RBW = 1 MHz</li> <li>VBW = 10 Hz, when duty cycle is no less than 98 percent.</li> <li>VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum</li> </ul>
Peak Measurements Above 1000 MHz  • RBW = 1 MHz  • VBW ≥ 3 MHz  • Detector = Peak  • Sweep time = auto  • Trace mode = max hold  Average Measurements Above 1000MHz  • RBW = 1 MHz  • VBW = 10 Hz, when duty cycle is no less than 98 percent.  • VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum
<ul> <li>RBW = 1 MHz</li> <li>VBW ≥ 3 MHz</li> <li>Detector = Peak</li> <li>Sweep time = auto</li> <li>Trace mode = max hold</li> <li>Average Measurements Above 1000MHz</li> <li>RBW = 1 MHz</li> <li>VBW = 10 Hz, when duty cycle is no less than 98 percent.</li> <li>VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum</li> </ul>
<ul> <li>VBW ≥ 3 MHz</li> <li>Detector = Peak</li> <li>Sweep time = auto</li> <li>Trace mode = max hold</li> <li>Average Measurements Above 1000MHz</li> <li>RBW = 1 MHz</li> <li>VBW = 10 Hz, when duty cycle is no less than 98 percent.</li> <li>VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum</li> </ul>
<ul> <li>Detector = Peak</li> <li>Sweep time = auto</li> <li>Trace mode = max hold</li> <li>Average Measurements Above 1000MHz</li> <li>RBW = 1 MHz</li> <li>VBW = 10 Hz, when duty cycle is no less than 98 percent.</li> <li>VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum</li> </ul>
<ul> <li>Sweep time = auto</li> <li>Trace mode = max hold</li> <li>Average Measurements Above 1000MHz</li> <li>RBW = 1 MHz</li> <li>VBW = 10 Hz, when duty cycle is no less than 98 percent.</li> <li>VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum</li> </ul>
<ul> <li>Trace mode = max hold Average Measurements Above 1000MHz</li> <li>RBW = 1 MHz</li> <li>VBW = 10 Hz, when duty cycle is no less than 98 percent.</li> <li>VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum</li> </ul>
Average Measurements Above 1000MHz  • RBW = 1 MHz  • VBW = 10 Hz, when duty cycle is no less than 98 percent.  • VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum
<ul> <li>RBW = 1 MHz</li> <li>VBW = 10 Hz, when duty cycle is no less than 98 percent.</li> <li>VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum</li> </ul>
<ul> <li>VBW = 10 Hz, when duty cycle is no less than 98 percent.</li> <li>VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum</li> </ul>
• VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum
· · ·
transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Exploratory Test Mode: Transmitting with GFSK modulation.
Charge + Transmitting mode.
Final Test Mode: Transmitting with GFSK modulation.
Pretest the EUT at Charge + Transmitting mode.
Only the worst case is recorded in the report.
Instruments Used: Refer to section 3 for details
Test Results: Pass
The detailed test data see: Appendix



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## 6 Photographs - Setup Photos

Refer to Appendix A.2 WLAN Setup Photos.



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# 7 Appendix

1. Duty Cycle

1.1 Test Result

#### 1.1.1 Ant1

Ant1								
Mode	TX	Frequency	T_on	Period	Duty Cycle	Duty Cycle	Max. DC	
	Type	(MHz)	(ms)	(ms)	(%)	Correction Factor (dB)	Variation (%)	
Thread	SISO	2405	1.067	10.000	10.67	9.72	0.03	
		2440	1.067	10.000	10.67	9.72	0.00	
		2480	1.067	10.000	10.67	9.72	0.00	

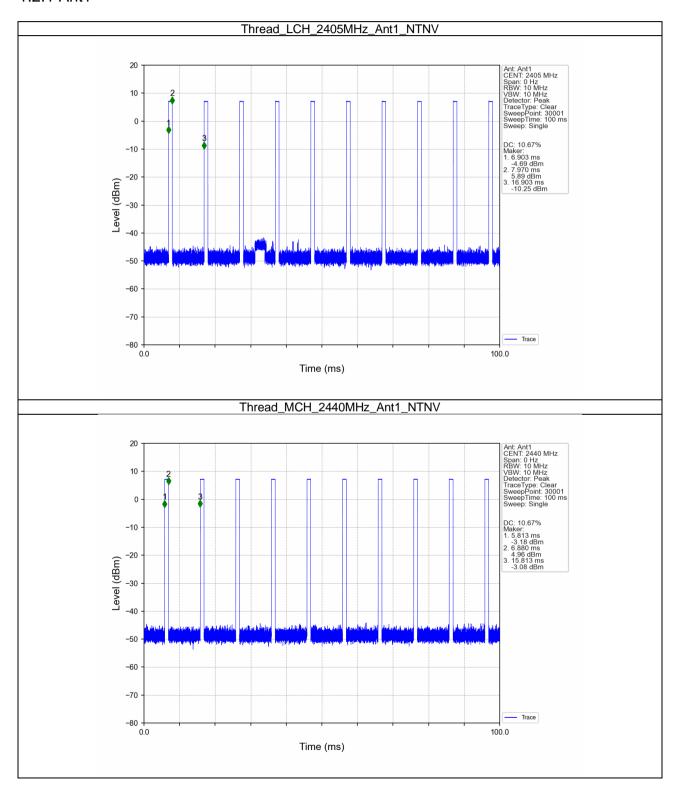


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#### 1.2 Test Graph

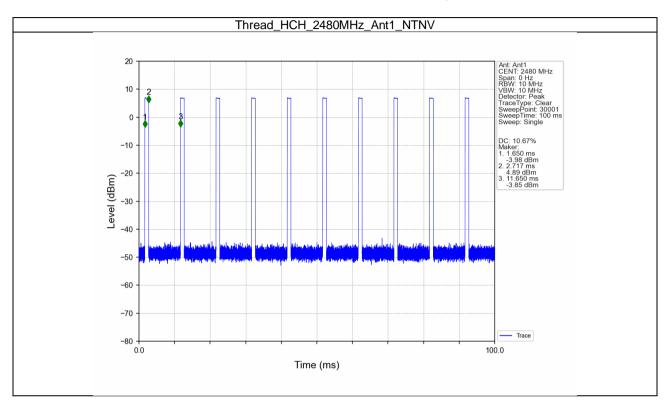
#### 1.2.1 Ant1





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#### 2. Bandwidth

#### 2.1 Test Result

#### 2.1.1 OBW

Mode	TX	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
	Type			Result	Limit	verdict
Thread	SISO	2405	1	2.190	1	Pass
		2440	1	2.196	1	Pass
		2480	1	2.170	/	Pass

#### 2.1.2 6dB BW

Mode	TX	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
	Type			Result	Limit	verdict
Thread	SISO	2405	1	1.434	>=0.5	Pass
		2440	1	1.425	>=0.5	Pass
		2480	1	1.424	>=0.5	Pass

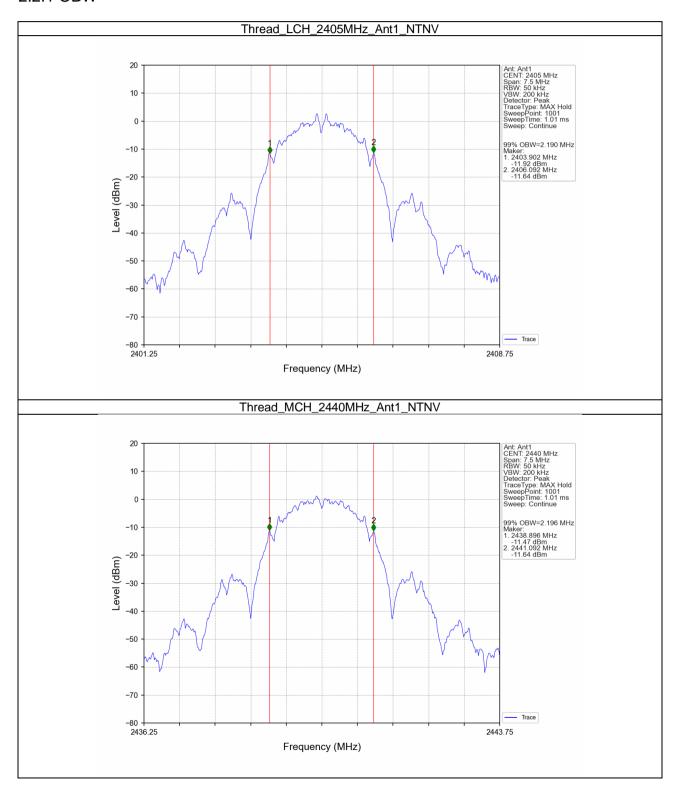


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#### 2.2 Test Graph

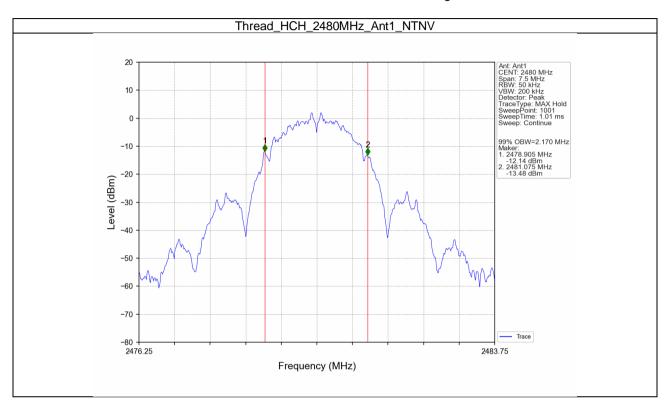
#### 2.2.1 OBW





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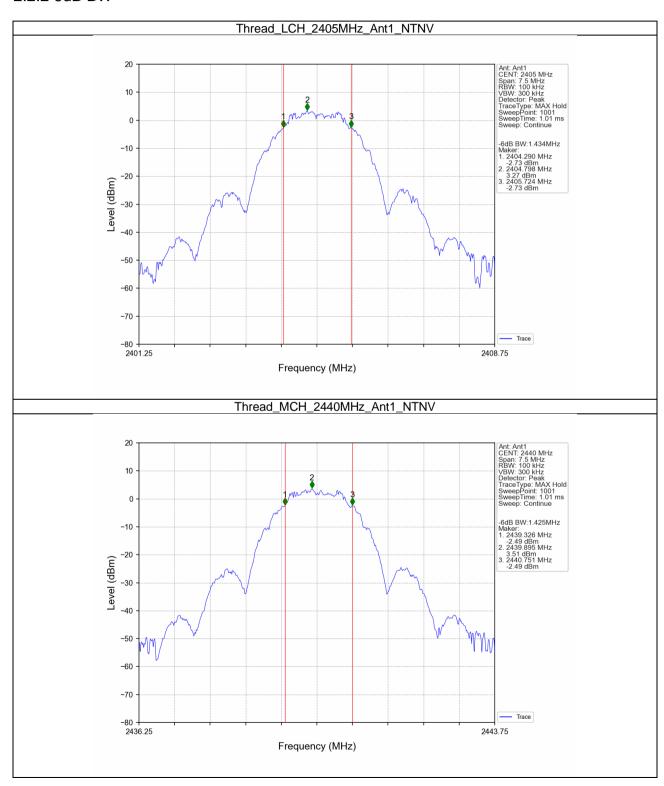




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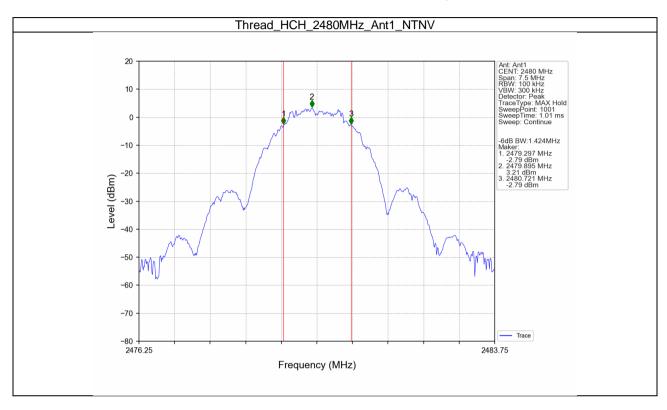
#### 2.2.2 6dB BW





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## 3. Maximum Conducted Output Power

#### 3.1 Test Result

#### 3.1.1 Power

Mode	TX	Frequency	Maximum Peak Con (dl	Verdict		
Туре		(MHz)	ANT1	Limit		
		2405	19.11	<=30	Pass	
Thread	SISO	2440	19.27	<=30	Pass	
Tilleau	3130	2475	19.44	<=30	Pass	
		2480	9.8	<=30	Pass	



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## 4. Maximum Power Spectral Density

#### 4.1 Test Result

#### 4.1.1 PSD

Mode	TX	Frequency	Maximum	Maximum PSD (dBm)					
Mode	Type	(MHz)	ANT1	Limit	Verdict				
		2405	3.48	<=8	Pass				
Thread	SISO	2440	3.51	<=8	Pass				
		2480	3.22	<=8	Pass				
Note1: Antenna Gain: Ant1: 3.37dBi;									

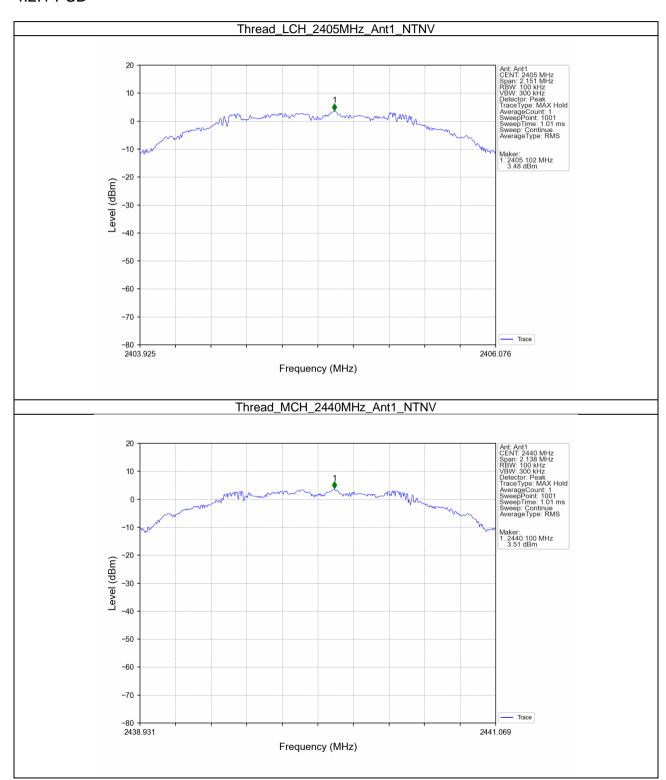


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#### 4.2 Test Graph

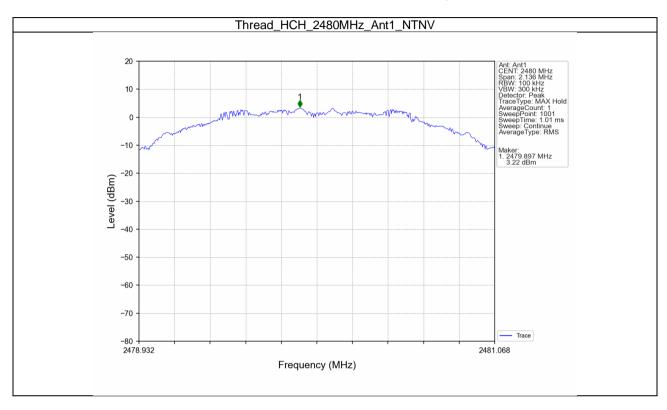
#### 4.2.1 PSD





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## 5. Unwanted Emissions In Non-restricted Frequency Bands

#### 5.1 Test Result

#### 5.1.1 Ref

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
		2405	1	3.49
Thread	SISO	2440	1	3.53
		2480	1	3.22

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

#### 5.1.2 CSE

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
		2405	1	3.53	-16.47	Pass
Thread	SISO	2440	1	3.53	-16.47	Pass
		2480	1	3.53	-16.47	Pass

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

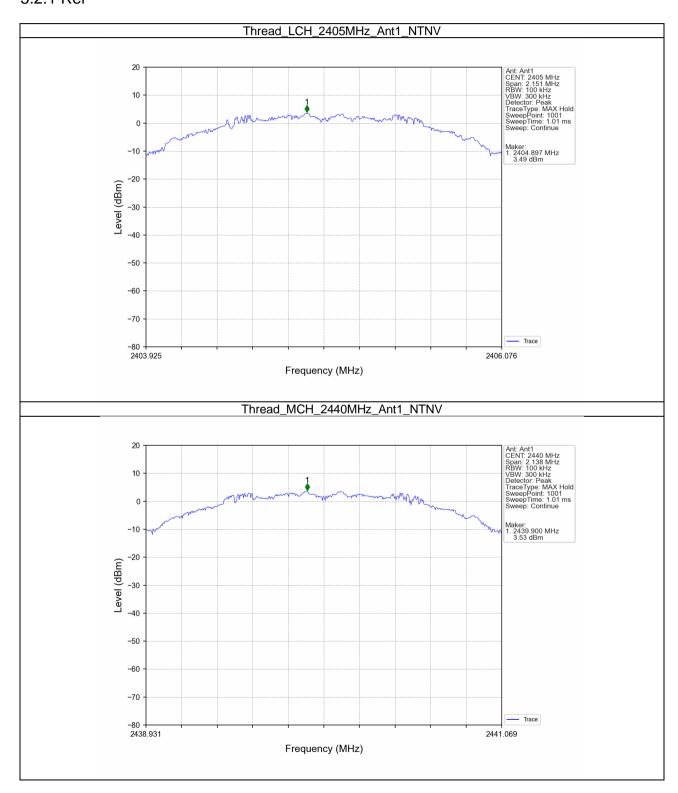


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#### 5.2 Test Graph

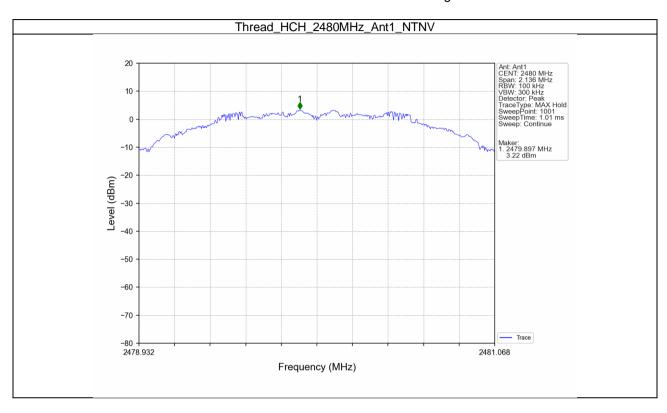
#### 5.2.1 Ref





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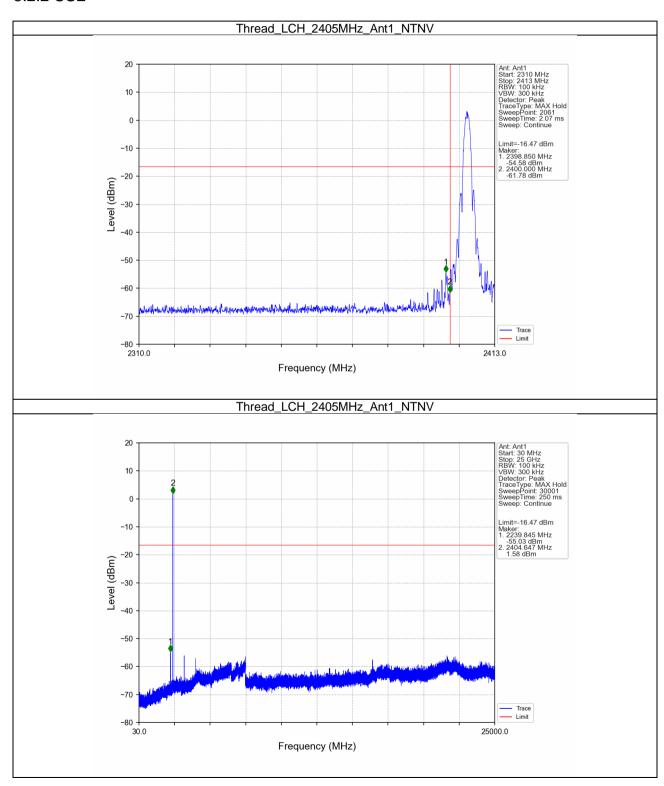




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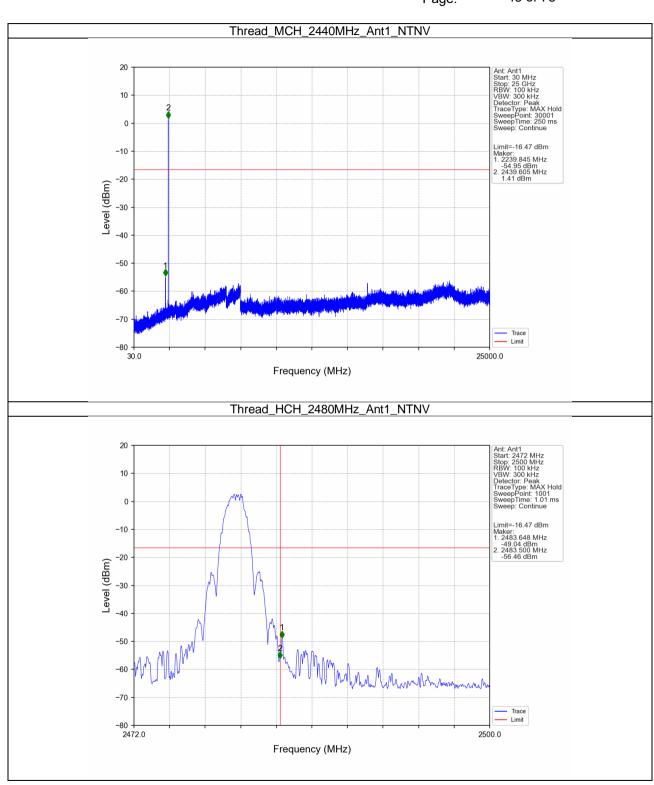
#### 5.2.2 CSE





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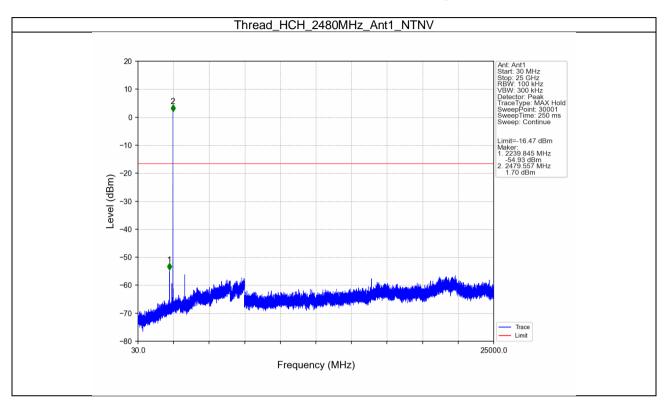
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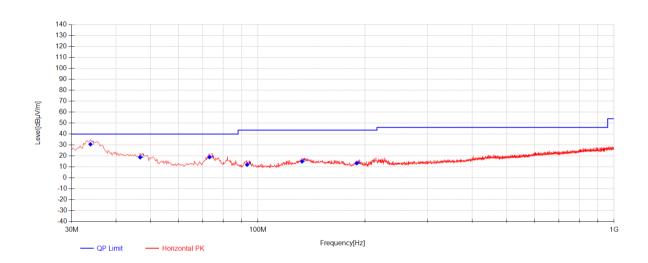




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Radiated Spurious Emissions
Radiated emission below 1GHz
Worst case Mode:
MQM744-0-50-0B
Thread\_Channel 26 WORSE



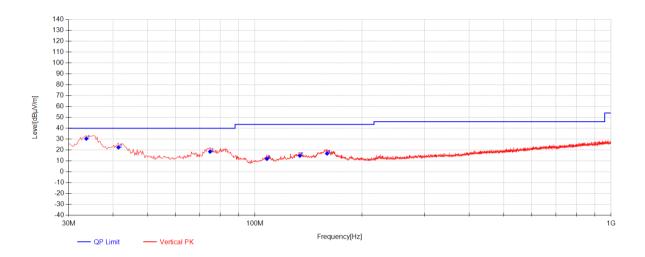
Final	Final Data List											
NO.	Frequency [MHz]]	Reading [dBμV]	Factor [dB]	AF [dB/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Polarity				
1	33.88	54.71	-42.28	18.19	30.62	40.00	9.38	Horizontal				
2	46.7325	41.89	-42.18	18.95	18.67	40.00	21.33	Horizontal				
3	73.165	44.71	-41.77	15.88	18.83	40.00	21.17	Horizontal				
4	93.2925	38.82	-41.43	14.55	11.94	43.50	31.56	Horizontal				
5	133.0625	37.91	-41.21	18.20	14.90	43.50	28.60	Horizontal				
6	189.565	38.43	-40.58	15.39	13.24	43.50	30.26	Horizontal				



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#### Thread \_Channel 26 WORSE



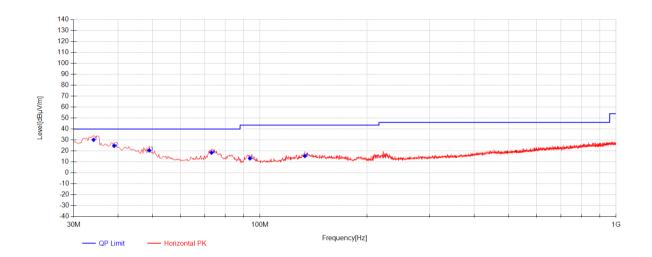
Final	Final Data List											
NO.	Frequency [MHz]]	Reading [dBμV]	Factor [dB]	AF [dB/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Polarity				
1	33.6375	54.52	-42.28	18.16	30.40	40.00	9.60	Vertical				
2	41.3975	45.86	-42.22	18.76	22.40	40.00	17.60	Vertical				
3	74.8625	44.65	-41.73	15.54	18.46	40.00	21.54	Vertical				
4	108.085	37.81	-41.44	15.50	11.87	43.50	31.63	Vertical				
5	133.79	37.71	-41.19	18.20	14.72	43.50	28.78	Vertical				
6	159.495	38.62	-40.70	18.85	16.77	43.50	26.73	Vertical				



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### MQM744-0-50-0U Thread\_Channel 26 WORSE



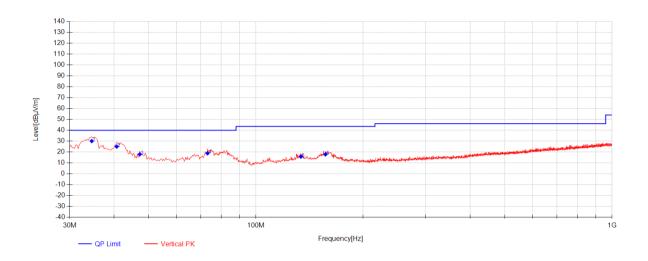
Final	Final Data List											
NO.	Frequency [MHz]]	Reading [dBμV]	Factor [dB]	AF [dB/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Polarity				
1	34.1225	54.19	-42.28	18.20	30.11	40.00	9.89	Horizontal				
2	38.9725	48.19	-42.24	18.60	24.55	40.00	15.45	Horizontal				
3	48.915	43.76	-42.16	18.80	20.40	40.00	19.60	Horizontal				
4	73.165	44.18	-41.77	15.88	18.30	40.00	21.70	Horizontal				
5	93.7775	40.19	-41.43	14.31	13.07	43.50	30.43	Horizontal				
6	133.79	38.28	-41.19	18.20	15.29	43.50	28.21	Horizontal				



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#### Thread \_Channel 26 WORSE



Final	Final Data List											
NO.	Frequency [MHz]]	Reading [dBμV]	Factor [dB]	AF [dB/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Polarity				
1	34.6075	54.13	-42.27	18.20	30.06	40.00	9.94	Vertical				
2	40.67	48.40	-42.22	18.80	24.98	40.00	15.02	Vertical				
3	47.2175	41.18	-42.17	18.88	17.89	40.00	22.11	Vertical				
4	73.165	44.67	-41.77	15.88	18.79	40.00	21.21	Vertical				
5	133.79	38.67	-41.19	18.20	15.68	43.50	27.82	Vertical				
6	156.8275	39.45	-40.70	19.01	17.76	43.50	25.74	Vertical				

#### Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier gain. The basic equation with a sample calculation is as follows:

Value = Reading(dB $\mu$ V) + AF(dB/m) + Factor(dB):

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier gain(dB)

Margin = Limit( $dB\mu V/m$ ) – Value( $dB\mu V/m$ )

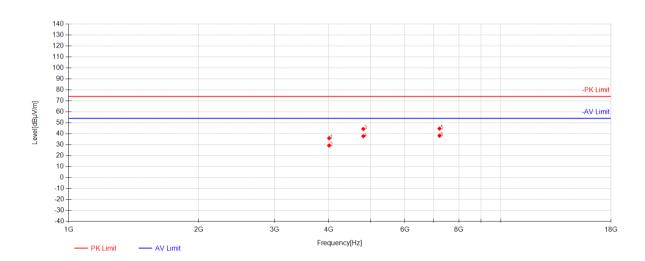
2) All channels have been tested, but only the worst case data displayed in this report.



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# Transmitter emission Above 1GHz MQM744-0-50-0B Thread\_Channel 11

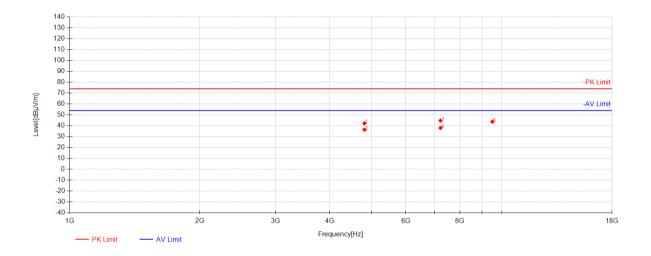


Data	Data List										
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	4008.375	52.51	29.42	-46.02	35.91	74.00	38.09	Horizontal			
2	4008.75	45.88	29.42	-46.02	29.29	54.00	24.71	Horizontal			
3	4809	58.77	31.09	-45.54	44.33	74.00	29.67	Horizontal			
4	4809.75	52.18	31.10	-45.54	37.74	54.00	16.26	Horizontal			
5	7216.125	52.52	35.61	-43.47	44.65	74.00	29.35	Horizontal			
6	7216.875	46.04	35.61	-43.48	38.17	54.00	15.83	Horizontal			



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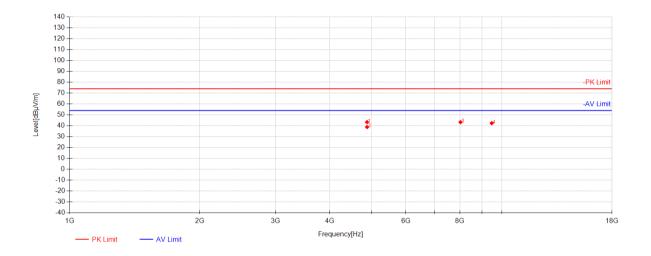


Data	Data List										
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	4810.875	56.69	31.10	-45.54	42.25	74.00	31.75	Vertical			
2	4811.25	50.84	31.10	-45.54	36.40	54.00	17.60	Vertical			
3	7216.5	52.61	35.61	-43.47	44.74	74.00	29.26	Vertical			
4	7216.875	45.91	35.61	-43.48	38.04	54.00	15.96	Vertical			
5	9510.75	46.40	37.52	-40.17	43.75	74.00	30.25	Vertical			



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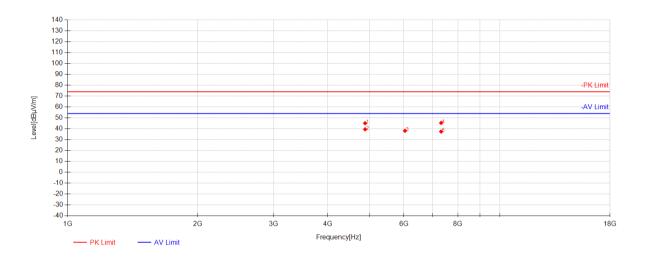


Data	Data List									
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	4879.125	57.71	31.21	-45.53	43.38	74.00	30.62	Horizontal		
2	4879.5	53.14	31.21	-45.53	38.82	54.00	15.18	Horizontal		
3	8028.375	48.31	37.08	-42.07	43.32	74.00	30.68	Horizontal		
4	9482.25	45.09	37.46	-40.16	42.40	74.00	31.60	Horizontal		



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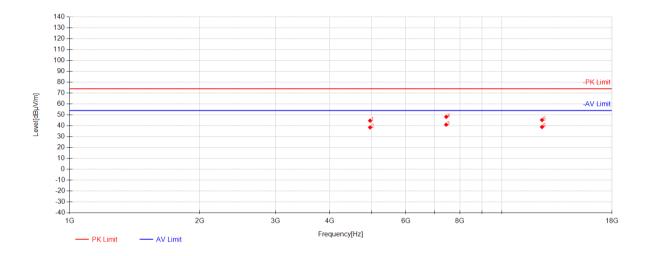


Data	Data List										
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	4881	59.41	31.21	-45.53	45.09	74.00	28.91	Vertical			
2	4881.375	53.79	31.21	-45.53	39.47	54.00	14.53	Vertical			
3	6037.5	50.28	32.53	-44.69	38.12	74.00	35.88	Vertical			
4	7318.5	53.18	35.89	-43.69	45.38	74.00	28.62	Vertical			
5	7318.875	45.17	35.89	-43.69	37.38	54.00	16.62	Vertical			



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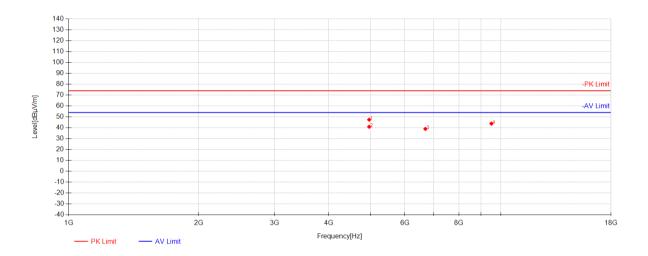


Data	Data List										
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	4959	58.96	31.33	-45.59	44.70	74.00	29.30	Horizontal			
2	4959.375	52.75	31.34	-45.60	38.49	54.00	15.51	Horizontal			
3	7439.25	48.06	36.23	-43.30	40.99	54.00	13.01	Horizontal			
4	7441.5	55.25	36.24	-43.30	48.19	74.00	25.81	Horizontal			
5	12397.5	43.63	39.22	-37.56	45.29	74.00	28.71	Horizontal			
6	12397.875	37.22	39.22	-37.56	38.88	54.00	15.12	Horizontal			



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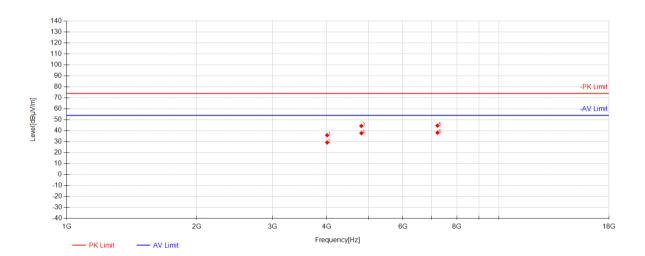
Data	Data List									
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	4960.875	61.67	31.34	-45.60	47.41	74.00	26.59	Vertical		
2	4961.25	55.18	31.34	-45.60	40.92	54.00	13.08	Vertical		
3	6693.75	48.36	34.45	-43.84	38.96	74.00	35.04	Vertical		
4	9516	46.42	37.53	-40.14	43.81	74.00	30.19	Vertical		



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#### MQM744-0-50-0U Thread\_Channel 11

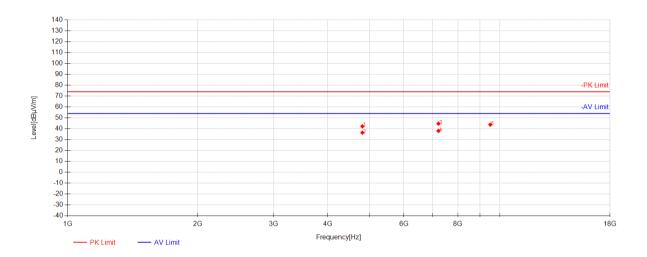


Data	Data List										
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	4008.375	52.51	29.42	-46.02	35.91	74.00	38.09	Horizontal			
2	4008.75	45.88	29.42	-46.02	29.29	54.00	24.71	Horizontal			
3	4809	58.77	31.09	-45.54	44.33	74.00	29.67	Horizontal			
4	4809.75	52.18	31.10	-45.54	37.74	54.00	16.26	Horizontal			
5	7216.125	52.52	35.61	-43.47	44.65	74.00	29.35	Horizontal			
6	7216.875	46.04	35.61	-43.48	38.17	54.00	15.83	Horizontal			



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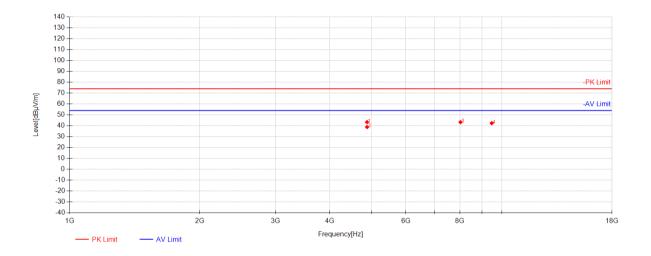


Data	Data List										
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	4810.875	56.69	31.10	-45.54	42.25	74.00	31.75	Vertical			
2	4811.25	50.84	31.10	-45.54	36.40	54.00	17.60	Vertical			
3	7216.5	52.61	35.61	-43.47	44.74	74.00	29.26	Vertical			
4	7216.875	45.91	35.61	-43.48	38.04	54.00	15.96	Vertical			
5	9510.75	46.40	37.52	-40.17	43.75	74.00	30.25	Vertical			



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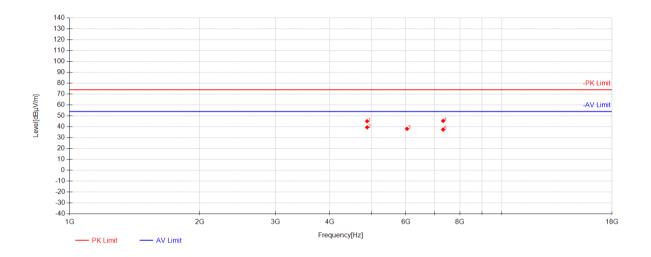


Data	Data List									
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	4879.125	57.71	31.21	-45.53	43.38	74.00	30.62	Horizontal		
2	4879.5	53.14	31.21	-45.53	38.82	54.00	15.18	Horizontal		
3	8028.375	48.31	37.08	-42.07	43.32	74.00	30.68	Horizontal		
4	9482.25	45.09	37.46	-40.16	42.40	74.00	31.60	Horizontal		



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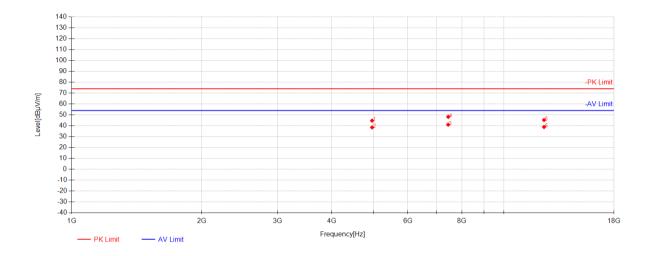


Data	Data List										
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	4881	59.41	31.21	-45.53	45.09	74.00	28.91	Vertical			
2	4881.375	53.79	31.21	-45.53	39.47	54.00	14.53	Vertical			
3	6037.5	50.28	32.53	-44.69	38.12	74.00	35.88	Vertical			
4	7318.5	53.18	35.89	-43.69	45.38	74.00	28.62	Vertical			
5	7318.875	45.17	35.89	-43.69	37.38	54.00	16.62	Vertical			



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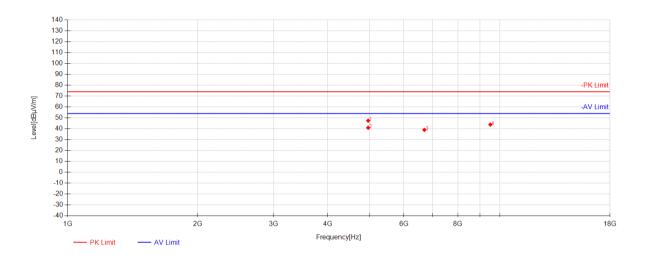
Data	Data List										
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	4959	58.96	31.33	-45.59	44.70	74.00	29.30	Horizontal			
2	4959.375	52.75	31.34	-45.60	38.49	54.00	15.51	Horizontal			
3	7439.25	48.06	36.23	-43.30	40.99	54.00	13.01	Horizontal			
4	7441.5	55.25	36.24	-43.30	48.19	74.00	25.81	Horizontal			
5	12397.5	43.63	39.22	-37.56	45.29	74.00	28.71	Horizontal			
6	12397.875	37.22	39.22	-37.56	38.88	54.00	15.12	Horizontal			



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#### Thread\_Channel 26



Data	Data List										
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	4960.875	61.67	31.34	-45.60	47.41	74.00	26.59	Vertical			
2	4961.25	55.18	31.34	-45.60	40.92	54.00	13.08	Vertical			
3	6693.75	48.36	34.45	-43.84	38.96	74.00	35.04	Vertical			
4	9516	46.42	37.53	-40.14	43.81	74.00	30.19	Vertical			

#### Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier gain. The basic equation with a sample calculation is as follows:

Level = Reading( $dB\mu V$ ) + AF(dB/m) + Factor(dB):

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier gain(dB)

Margin = Limit( $dB\mu V/m$ ) – Level( $dB\mu V/m$ )

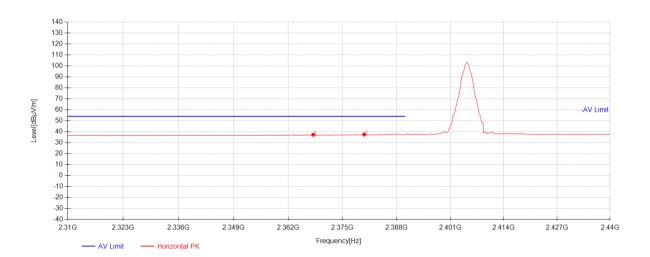
2) All channels have been tested, but only the worst case data displayed in this report.



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# Restricted bands around fundamental frequency MQM744-0-50-0B Thread\_Channel 11

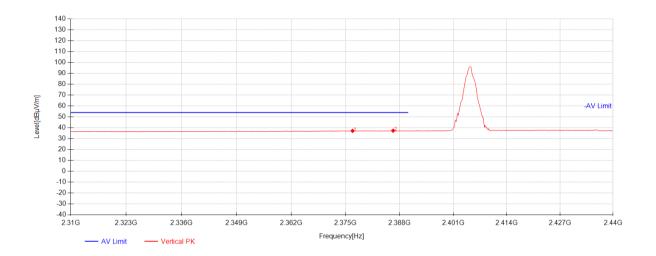


Data	Data List									
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	2367.98	33.90	26.94	-23.57	37.26	54.00	16.74	Horizontal		
2	2380.2	34.10	26.96	-23.57	37.49	54.00	16.51	Horizontal		



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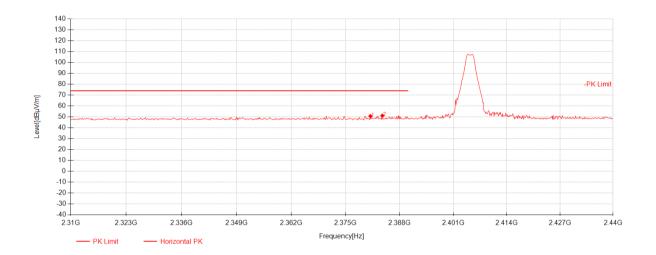


Data	Data List									
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	2376.69	33.75	26.95	-23.57	37.13	54.00	16.87	Vertical		
2	2386.44	33.89	26.97	-23.57	37.29	54.00	16.71	Vertical		



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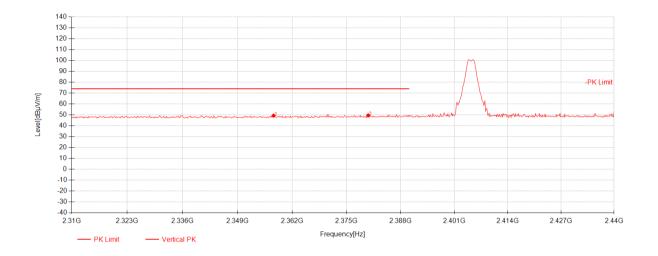


Data	Data List										
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	2380.98	47.25	26.96	-23.57	50.64	74.00	23.36	Horizontal			
2	2383.84	47.73	26.97	-23.57	51.13	74.00	22.87	Horizontal			



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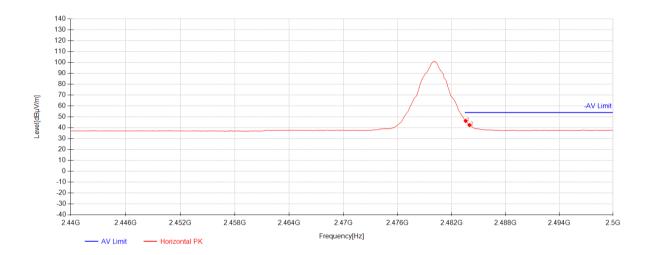


Data	Data List									
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	2357.58	46.01	26.92	-23.57	49.35	74.00	24.65	Vertical		
2	2380.2	46.17	26.96	-23.57	49.56	74.00	24.44	Vertical		



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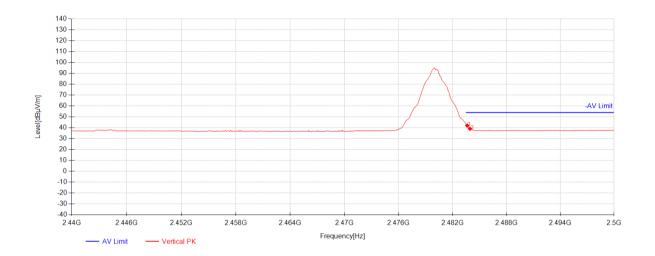


Data	Data List									
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	2483.56	42.68	27.17	-23.54	46.30	54.00	7.70	Horizontal		
2	2483.98	38.85	27.17	-23.54	42.47	54.00	11.53	Horizontal		



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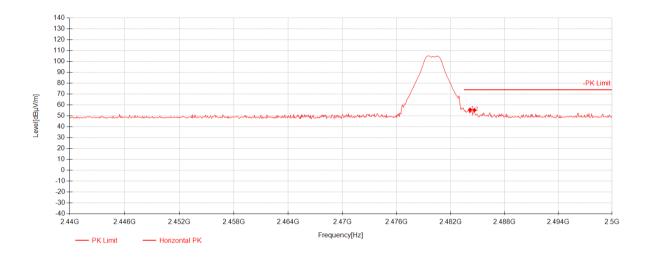


Data List									
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity	
1	2483.62	38.41	27.17	-23.54	42.03	54.00	11.97	Vertical	
2	2483.92	35.47	27.17	-23.54	39.09	54.00	14.91	Vertical	



Report No.: SUCR250400035504

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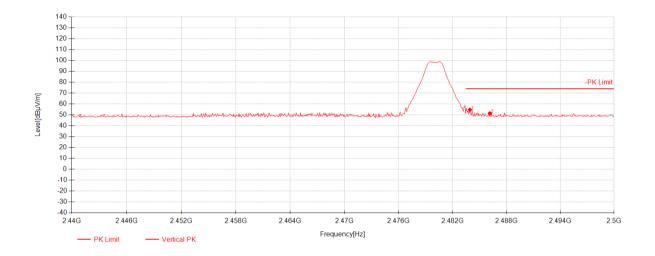


Data	Data List									
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	2484.16	52.11	27.17	-23.54	55.73	74.00	18.27	Horizontal		
2	2484.64	51.70	27.17	-23.54	55.32	74.00	18.68	Horizontal		



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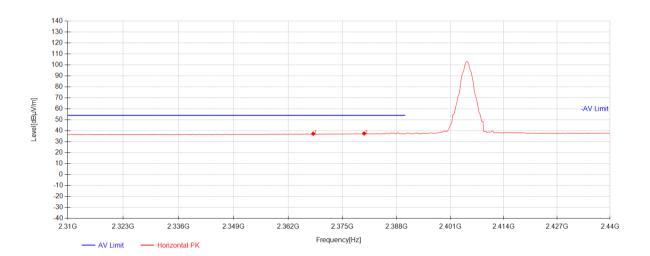
Data	Data List									
NO.	Frequency [MHz]	Reading [dВµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	2483.92	51.19	27.17	-23.54	54.81	74.00	19.19	Vertical		
2	2486.14	47.85	27.17	-23.54	51.48	74.00	22.52	Vertical		



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#### MQM744-0-50-0U Thread\_Channel 11

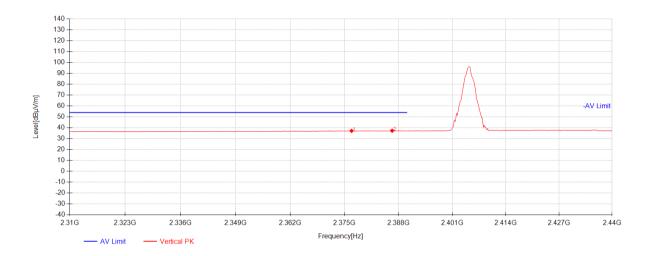


Data	Data List									
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	2367.98	33.90	26.94	-23.57	37.26	54.00	16.74	Horizontal		
2	2380.2	34.10	26.96	-23.57	37.49	54.00	16.51	Horizontal		



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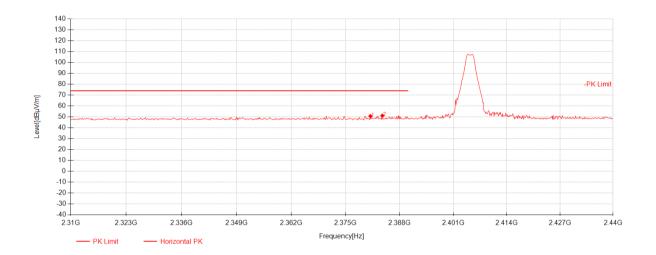


Data	Data List									
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	2376.69	33.75	26.95	-23.57	37.13	54.00	16.87	Vertical		
2	2386.44	33.89	26.97	-23.57	37.29	54.00	16.71	Vertical		



Report No.: SUCR250400035504

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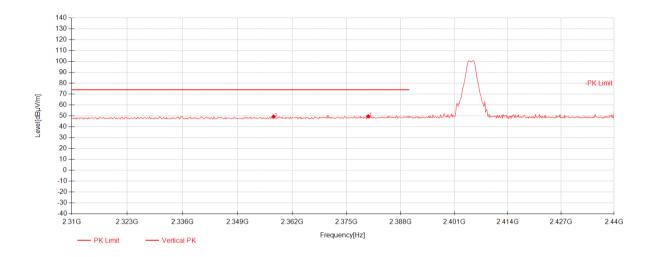


Data	Data List									
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	2380.98	47.25	26.96	-23.57	50.64	74.00	23.36	Horizontal		
2	2383.84	47.73	26.97	-23.57	51.13	74.00	22.87	Horizontal		



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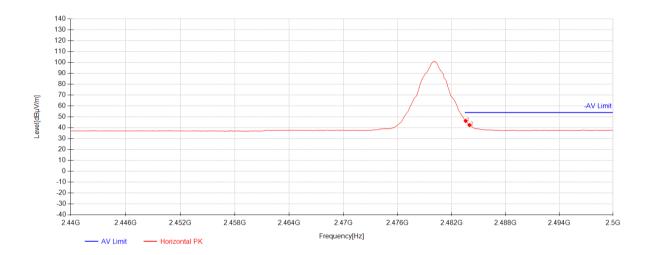


Data	Data List									
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	2357.58	46.01	26.92	-23.57	49.35	74.00	24.65	Vertical		
2	2380.2	46.17	26.96	-23.57	49.56	74.00	24.44	Vertical		



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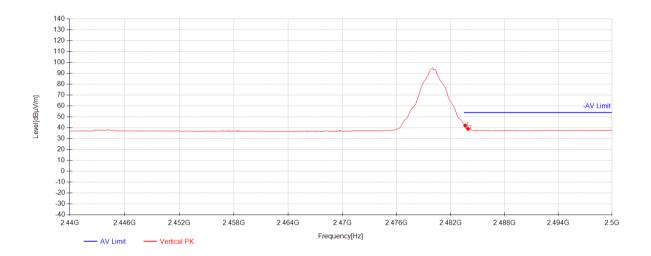


Data	Data List									
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	2483.56	42.68	27.17	-23.54	46.30	54.00	7.70	Horizontal		
2	2483.98	38.85	27.17	-23.54	42.47	54.00	11.53	Horizontal		



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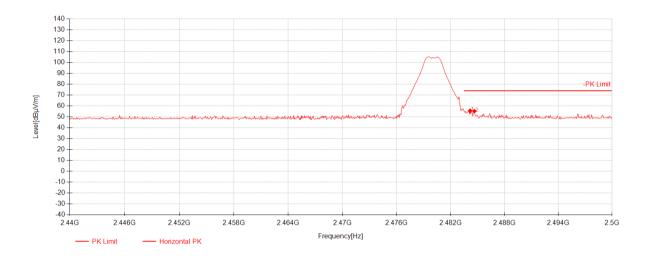


Data List									
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity	
1	2483.62	38.41	27.17	-23.54	42.03	54.00	11.97	Vertical	
2	2483.92	35.47	27.17	-23.54	39.09	54.00	14.91	Vertical	



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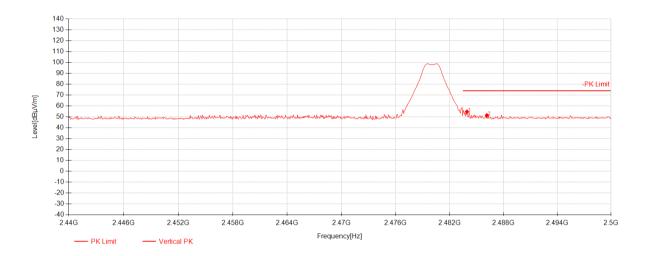
Data	Data List									
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	2484.16	52.11	27.17	-23.54	55.73	74.00	18.27	Horizontal		
2	2484.64	51.70	27.17	-23.54	55.32	74.00	18.68	Horizontal		



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Data	Data List									
NO.	Frequency [MHz]	Reading [dВµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	2483.92	51.19	27.17	-23.54	54.81	74.00	19.19	Vertical		
2	2486.14	47.85	27.17	-23.54	51.48	74.00	22.52	Vertical		

#### Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier gain. The basic equation with a sample calculation is as follows:

Level = Reading( $dB\mu V$ ) + AF(dB/m) + Factor(dB):

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier gain(dB)

Margin = Limit( $dB\mu V/m$ ) – Level( $dB\mu V/m$ )

---End of Report---