ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

Testing Laboratory 3702

Applicant:	Qualcomm Technologies, Inc. 5775 Morehouse Drive, San Diego, CA 92121-1714, United States
Manufacturer:	Qualcomm Technologies, Inc. 5775 Morehouse Drive, San Diego, CA 92121-1714, United States
Product Name:	Tri-Radio LGA Module for IoT applications
Brand Name:	Qualcomm
Model No.:	QCC743M-0
Report Number:	TERF2503001019ER
FCC ID	J9C-QCC743M0
Date of EUT Received:	March 7, 2025
Date of Test:	March 12, 2025～March 26, 2025
Issue Date:	April 18, 2025

Jazz Huang

Approved By _____
Jazz Huang

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10:2013 and the energy emitted by the sample EUT comply with FCC rule part §15.247.

The results of this report relate only to the sample identified in this report.

Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TERF2503001019ER	00	Change antenna location & add additional HW SKU QCC743M-0P	April 18, 2025	Yuri Tsai	

Note:

1、The remark "*" indicates modification of the report upon requests from certification body.

2、Variant information of HW SKU is provided by the applicant, test results of this report are applicable to the sample EUT(s) received.
And are assessed as electrically identical in RF characteristics, therefore, no further assessment required for the variant(s).

Table of Contents

1 GENERAL INFORMATION 4
2 SYSTEM TEST CONFIGURATION 7
3 SUMMARY OF TEST RESULTS 11
4 DESCRIPTION OF TEST MODES 12
5 MEASUREMENT UNCERTAINTY 14
6 MEASUREMENT EQUIPMENT USED 15
7 CONDUCTED EMISSION TEST 16
8 PEAK OUTPUT POWER MEASUREMENT 20
9 RADIATED BANDEDGE AND SPURIOUS EMISSION MEASUREMENT 23

1 GENERAL INFORMATION

1.1 Product Description

Product Name:	Tri-Radio LGA Module for IoT applications
Brand Name:	Qualcomm
Model No.:	QCC743M-0
HW SKU:	QCC743M-0U, QCC743M-0B, QCC743M-0P
Hardware Version:	N/A
Firmware Version:	N/A
EUT Series No.:	C4:CC:37:A0:A2:A8
Power Supply:	3.3 Vdc
Test Software (Name/Version)	QConn_RCT 1.8.9

1.2 RF Specification

Radio Technology:	Thread
Frequency Range:	2405 – 2480MHz
Channel number:	16 channels
Modulation type:	O-QPSK
Transmit Power:	19.18 dBm

1.3 HW SKU Difference Table:

HW SKU	Antenna Type	Impedance
QCC743M-0U	3 types: PIFA, Monopole, Dipole	C21=1.8pF, C20=1.8pF
QCC743M-0B	1 type: PCB	C21=1.6pF, C20=2pF
QCC743M-0P	3 types: PIFA, Monopole, Dipole	C21=1.8pF, C20=2pF

1.4 Antenna Designation

Antenna Type	Antenna Part No.	Freq.	Peak Antenna Gain (dBi)
PCB Antenna	RFIQM0743010NB001	2.4GHz	1.89
PIFA Antenna	RFPCA441010EMABY01		3.19
Dipole Antenna	RFPCA521010EMABY01		3.37
Monopole Antenna	RFPCA501010EMABY01		3.12

Note:

1. Pre-scanned 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.

1.5 Test Methodology of Applied Standards

FCC Part 15, Subpart C §15.247
FCC KDB 558074 D01 15.247 Meas Guidance v05r02
ANSI C63.10:2013

1.6 Test Facility

Laboratory	Test Site Address	Test Site Name	FCC Designation number	IC CAB identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan.	SAC 1	TW0027	TW3702
		SAC 2		
		SAC 3		
		Conduction 1		
		Conducted 1		
		Conducted 2		
		Conducted 3		
		Conducted 4		
		Conducted 5		
		Conducted 6		
	No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333	Conduction C	TW0028	
		SAC C		
		SAC D		
		SAC G		
		Conducted A		
		Conducted B		
		Conducted C		
		Conducted D		
		Conducted E		
		Conducted F		
		Conducted G		

Note: Test site name is remarked on the equipment list in each section of this report as an indication where measurements occurred in specific test site and address.

1.7 Special Accessories

There are no special accessories used while test was conducted.

1.8 Equipment Modifications

There was no modification incorporated into the EUT.

2 SYSTEM TEST CONFIGURATION

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

An engineering test mode (software/firmware) that applicant provided was utilized to manipulate the EUT into transmit, selection of the test channel, and modulation scheme.

2.3 Test Procedure

2.3.1 Conducted Emissions

The EUT is placed on a table which is 0.8 m above ground plane. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz. The CISPR Quasi-Peak and Average detector mode is employed. The two LISNs provide 50uH/50 ohm of coupling impedance for the measuring instrument. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

2.3.2 Conducted Test (RF)

The active antenna port of the unlicensed wireless device is connected to the spectrum analyzer with attenuator to protect the instrumentation. If a second antenna port is available, it is tested at one operating frequency, with other port(s) appropriately terminated, to verify it has similar output characteristics as the fully tested port.

2.3.3 Radiated Emissions

The EUT is placed on a turn table. For emissions testing at or below 1 GHz, the table height shall be 0.8 m above the reference ground plane. For emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made “while keeping the antenna in the ‘cone of radiation’ from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response.” is still within the 3dB illumination BW of the measurement antenna.

2.4 Measurement Results Explanation Example

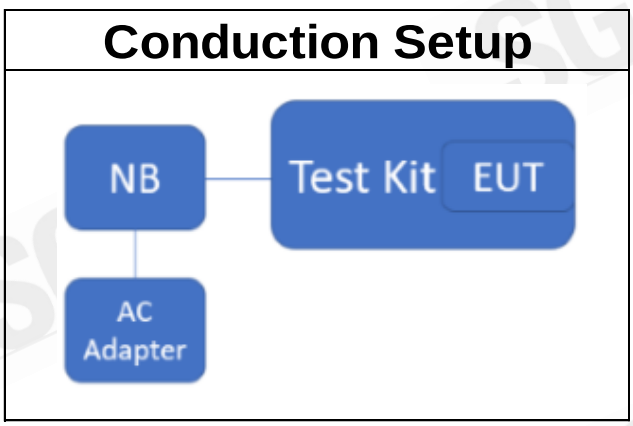
2.4.1 Radiated Emission Test Sites For Measurements From 9 kHz To 30 MHz

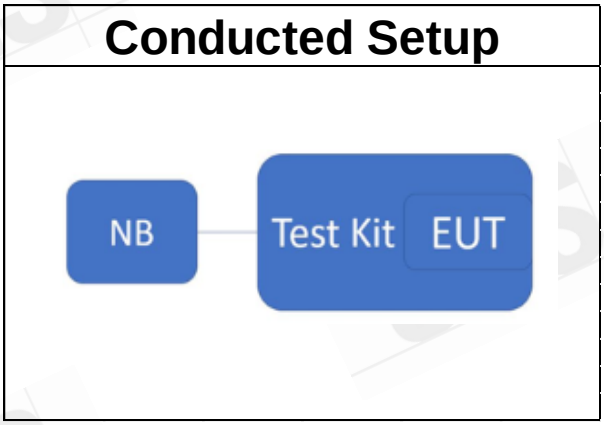
Radiated emission below 30MHz is measured in a 9m*6m*6m semi-anechoic chamber, the measurements correspond to those obtained at an open-field test site.
There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

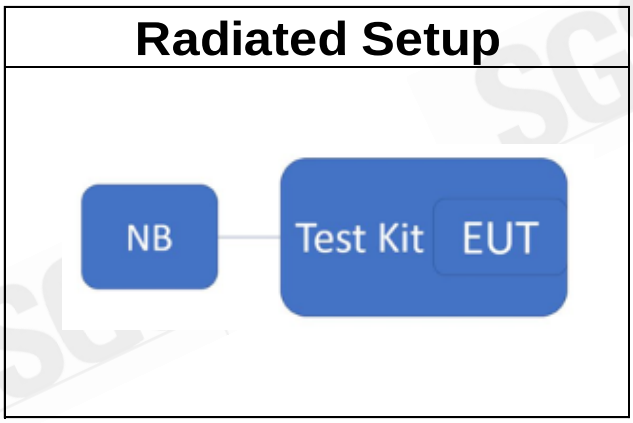
2.4.2 For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuation factor between EUT conducted port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly EUT RF output level.

2.5 Test Configuration







2.6 Control Unit(s)

AC Power-Line Conducted Emission Test Site: Conduction 1					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
AC Adapter	HP	TPN-LA16	N/A	N/A	N/A
Notebook	HP	HSN-Q35C-4	5CD238GDV5	N/A	N/A
Type-C to USB Cable	Xiaomi	SJX10ZM	N/A	N/A	N/A
QCC74X Module Development Kit Board	Walsin	QCC743-DVK-P	N/A	N/A	N/A

Conducted Emission Test Site: Conducted 1					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
Notebook	HP	HSN-Q35C-4	5CD238GDV5	N/A	N/A
QCC74X Module Development Kit Board	Walsin	QCC743-DVK-P	N/A	N/A	N/A

Radiated Emission Test Site: SAC 2					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
Notebook	HP	HSN-Q35C-4	5CD238GDV5	N/A	N/A
Type-C to USB Cable	Xiaomi	SJX10ZM	N/A	N/A	N/A
QCC74X Module Development Kit Board	Walsin	QCC743-DVK-P	N/A	N/A	N/A

3 SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result	Note
§15.207(a)	AC Power Line Conducted Emission	Compliant	
§15.247(b) (3)	Peak Output Power	Compliant	
§15.247(d) §15.209	Radiated Spurious Emission	Compliant	

4 DESCRIPTION OF TEST MODES

4.1 Operating Frequencies

2400~2483.5 MHz			
CH	Freq. (MHz)	CH	Freq. (MHz)
11	2405	21	2455
12	2410	22	2460
13	2415	23	2465
14	2420	24	2470
15	2425	25	2475
16	2430	26	2480
17	2435		
18	2440		
19	2445		
20	2450		

4.2 The Worst Test Modes and Channel Details

1. The EUT has been tested under operating condition.
2. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.
3. Investigation has been done on all the possible configurations for searching the worst case.

CONDUCTED TEST				
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
Thread	11 to 26	11,18,25,26	O-QPSK	0.25

TRANSMIT EMISSION TEST (BELOW 1 GHz)				
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
Thread	11 to 26	18	O-QPSK	0.25

Note:
1. The field strength of radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for channel Low, Mid and High, the worst case position was reported.

5 MEASUREMENT UNCERTAINTY

Test Items	Uncertainty		
AC Power Line Conducted Emission	+/-	1.54	dB
Output Power measurement	+/-	0.97	dB
Emission Bandwidth	+/-	1.38	Hz
Conducted emission measurement	+/-	0.77	dB
Peak Power Density	+/-	0.61	dB
Temperature	+/-	0.6	°C
Humidity	+/-	3	%
DC / AC Power Source	+/-	1	%

Radiated Spurious Emission Measurement Uncertainty				
Polarization: Vertical	**+/-**	**1.89**	**dB**	9kHz~30MHz
	+/-	**4.15**	**dB**	30MHz - 1000MHz
	+/-	**3.43**	**dB**	1GHz - 18GHz
	+/-	**3.86**	**dB**	18GHz - 40GHz
Polarization: Horizontal	**+/-**	**1.89**	**dB**	9kHz~30MHz
	+/-	**4.02**	**dB**	30MHz - 1000MHz
	+/-	**3.43**	**dB**	1GHz - 18GHz
	+/-	**3.86**	**dB**	18GHz - 40GHz
Radiated Spurious Emission	**+/-**	**2**	**dB**	33GHz-50GHz
	+/-	**1.59**	**dB**	50GHz-60GHz
	+/-	**1.7**	**dB**	60GHz-90GHz
	+/-	**1.64**	**dB**	90GHz-140GHz
	+/-	**3.83**	**dB**	140GHz-220GHz

Note:

1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
2. The conformity assessment statement in this report is based solely on the test results, measurement uncertainty is excluded.

6 MEASUREMENT EQUIPMENT USED

6.1 Emission from AC power line

AC Power-Line Conducted Emission Test Site: Conduction 1					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
Coaxial Cables	EMC Instruments Corp.	EMCCFD300-BM-BM-3000	161207	06/22/2024	06/21/2025
EMI Test Receiver	R&S	ESCI 7	100759	08/28/2024	08/27/2025
LISN	SCHWARZBECK	NSLK 8127	1040	09/07/2024	09/06/2025
Pulse Limiter	SCHWARZBECK	VTSD 9561F-N	793	06/22/2024	06/21/2025
Test Software	Audix	e3	Ver. 9.210616	N.C.R	N.C.R

6.2 Conducted Measurement

Conducted Emission Test Site: Conducted 1					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
Attenuator	Mini-Circuits	BW-S10W2+	3	12/11/2024	12/10/2025
Attenuator	Mini-Circuits	BW-S10W2+	4	12/11/2024	12/10/2025
DC Block	Mini-Circuits	BLK-18-S+	2	12/11/2024	12/10/2025
EXA Spectrum Analyzer	KEYSIGHT	N9010B	MY59071571	06/04/2024	06/03/2025
Power Meter	Anritsu	ML2496A	1242004	10/23/2024	10/22/2025
Power Sensor	Anritsu	MA2411B	1207365	10/23/2024	10/22/2025
Power Sensor	Anritsu	MA2411B	1207368	10/23/2024	10/22/2025
Test Software	SGS	Radio Test Software	Ver. 21	N.C.R	N.C.R

6.3 Radiated Measurement

Radiated Emission Test Site: SAC 2					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
Bi-log Antenna	SCHWARZBECK	VULB9168	1208	07/17/2024	07/16/2025
Coaxial Cables	EMCI	EMC104-SM-SM-600 +EMC105-SM-SM-2000 +EMC105-SM-SM-1500 +EMC105-SM-SM-10000	RX Cable 9K-18G (220237+220909+220906+240801)	08/30/2024	08/29/2025
EMI Test Receiver	R&S	ESCI 7	100759	08/28/2024	08/27/2025
EXA Spectrum Analyzer	KEYSIGHT	N9010B	MY60242392	12/24/2024	12/23/2025
Pre-Amplifier	EMCI	EMC330N	980826	08/30/2024	08/29/2025
Site Cal	SGS	SAC 2	N/A	08/30/2024	08/29/2025
Test Software	Audix	e3	Ver. 9.210616	N.C.R	N.C.R

NOTE: *N.C.R refers to Not Calibrated Required.*

7 CONDUCTED EMISSION TEST

7.1 Standard Applicable:

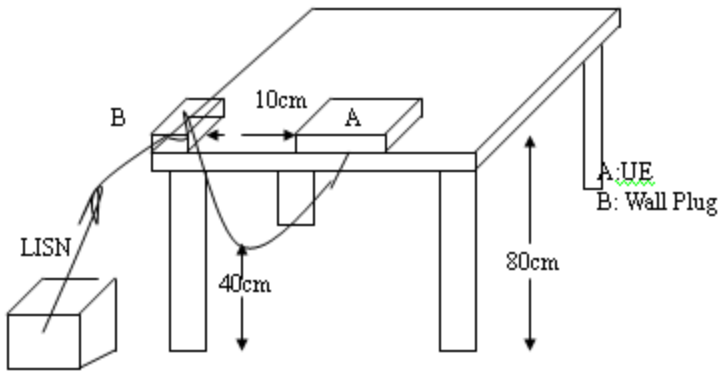
Frequency range within 150kHz to 30MHz shall not exceed the Limit table as below.

Frequency range MHz	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Note 1.The lower limit shall apply at the transition frequencies 2.The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

7.2 EUT Setup:

1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.10:2013.
2. The AC/DC Power adaptor of EUT was plug-in LISN. The EUT was placed flushed with the rear of the table.
3. The LISN was connected with 120Vac/60Hz power source.

7.3 Test Setup



7.4 Measurement Procedure:

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all phases of power being supplied by given UE are completed

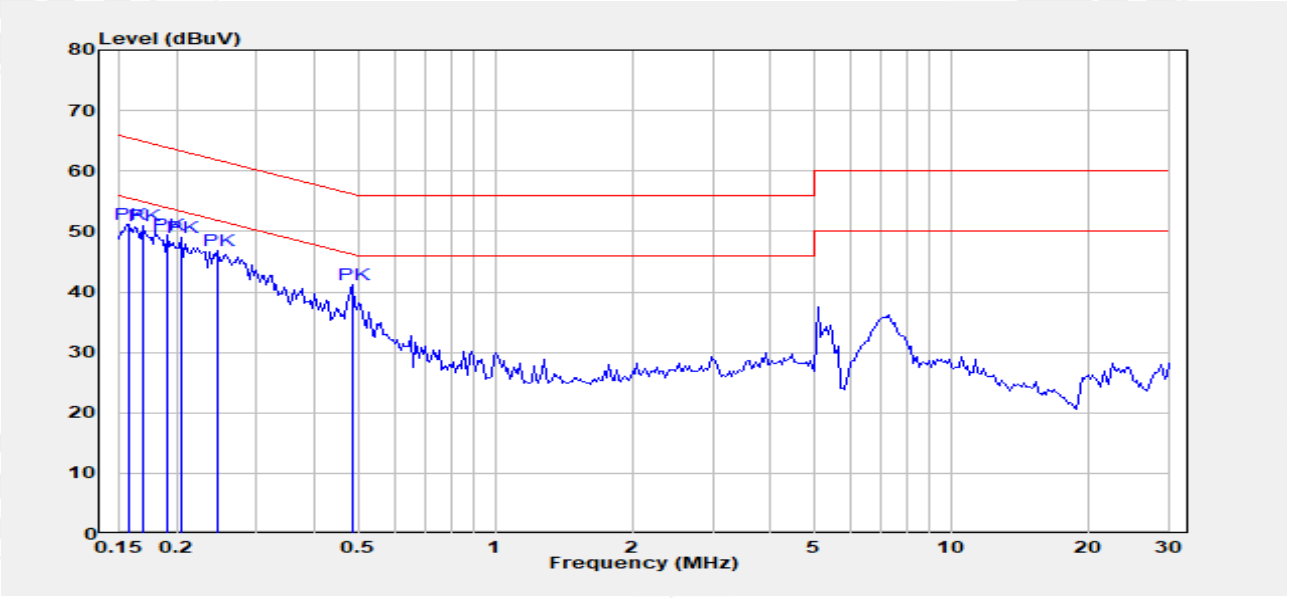
7.5 Measurement Result:

Note: Refer to next page for measurement data and plots.

Note2: The * reveals the worst-case results that closest to the limit.

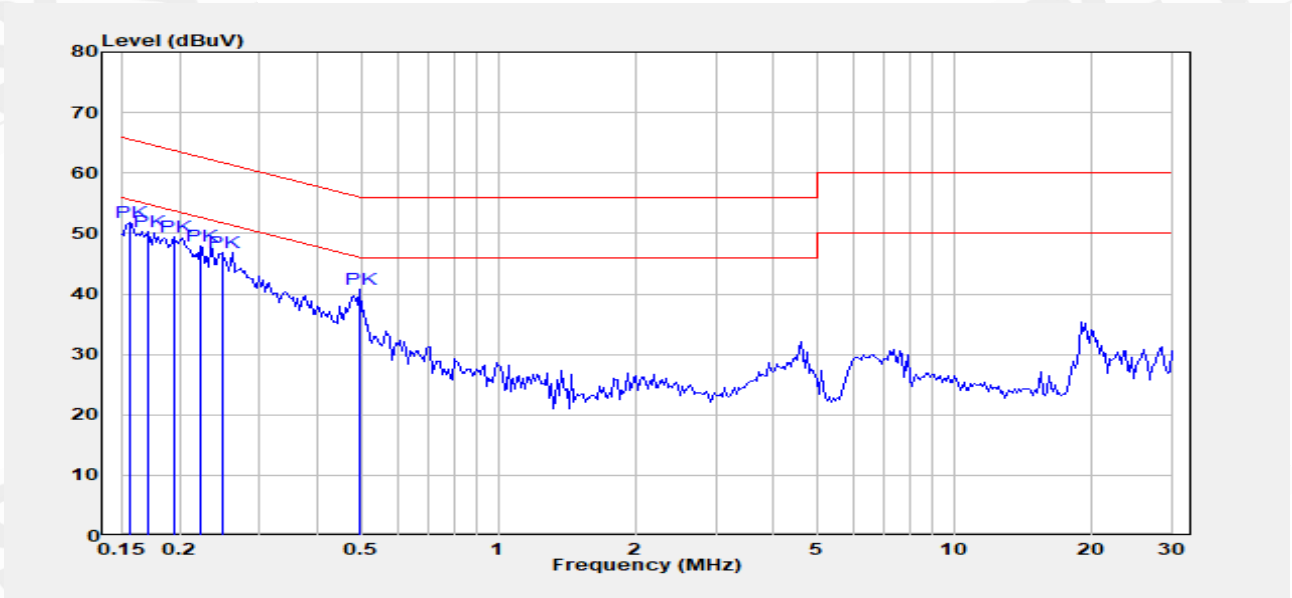
AC POWER LINE CONDUCTED EMISSION TEST DATA

Report Number	:TERF2503001019ER	Test Site	:Conduction 1
Operation Mode	:Thread	Test Date	:2025-03-20
Power	:120V/60Hz	Temp./Humi.	:22.4℃/61%
Probe	:L	Engineer	:GN Lin
Note:	:		



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV	dBµV	dB
0.156	Peak	41.06	10.13	51.19	65.65	-14.46
0.169	Peak	40.72	10.13	50.85	65.03	-14.18
0.191	Peak	39.36	10.13	49.49	63.98	-14.49
0.204	Peak	38.84	10.13	48.97	63.45	-14.48
0.247	Peak	36.72	10.14	46.86	61.86	-15.00
0.486	Peak	30.93	10.16	41.09	56.23	-15.14

Report Number	:TERF2503001019ER	Test Site	:Conduction 1
Operation Mode	:Thread	Test Date	:2025-03-20
Power	:120V/60Hz	Temp./Humi.	:22.4℃/61%
Probe	:N	Engineer	:GN Lin
Note:	:		



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV	dBµV	dB
0.155	Peak	41.59	10.12	51.71	65.74	-14.02
0.170	Peak	40.26	10.12	50.38	64.94	-14.57
0.195	Peak	39.20	10.12	49.32	63.80	-14.47
0.222	Peak	37.72	10.12	47.85	62.74	-14.90
0.249	Peak	36.78	10.13	46.91	61.78	-14.86
0.497	Peak	30.55	10.16	40.71	56.05	-15.35

8 PEAK OUTPUT POWER MEASUREMENT

8.1 Standard Applicable:

8.1.1 Duty Cycle

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle.

All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

8.1.2 FCC

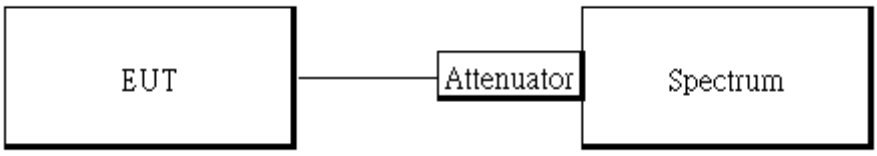
For systems using digital modulation in the 2400-2483.5 MHz bands, the limit for peak output power is 1Watt.

If the transmitting antenna of directional gain greater than 6dBi are used the peak output power form the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the Antenna exceeds 6dBi.

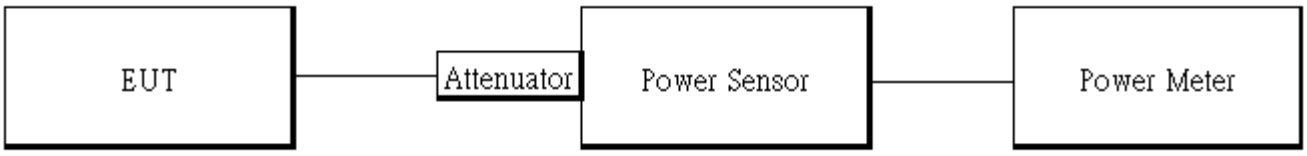
In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of Antenna exceeds 6dBi.

8.2 Test Setup

8.2.1 Duty Cycle



8.2.2 Output Power



8.3 Measurement Procedure:

8.3.1 Duty Cycle

1. Place the EUT on the table and set it in transmitting mode.
2. Set span = Zero
3. RBW = 8MHz, VBW = 8MHz,
4. Detector = Peak

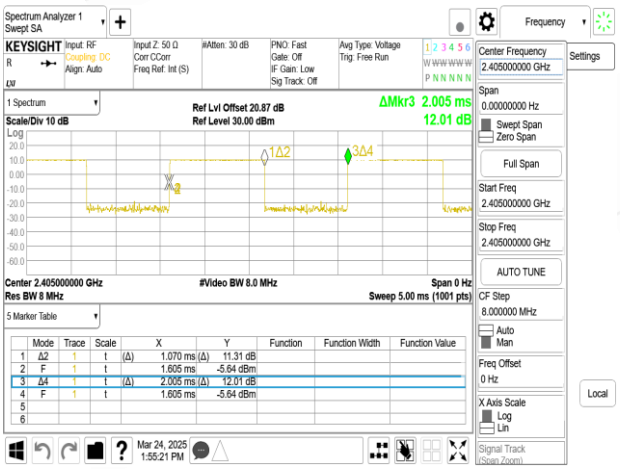
8.3.2 Output Power

1. Place the EUT on the table and set it in transmitting mode.
2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance.
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter.
4. Record the max. Reading as observed from Power Meter.
5. Repeat above procedures until all test default channel measured was complete.

8.4 Duty Factor:

Mode	Duty Cycle (%) = Ton / (Ton+Toff)	Duty Factor (dB) =10*log (1/Duty Cycle)	1/T (kHz)	VBW setting (kHz)
Thread	53.36	2.73	0.93	1.00

Thread_LowCH11-2405



8.5 Output Power:

8.5.1 Peak & Avg

Thread:

CH	Frequency (MHz)	Power Setting	Peak Output Power (dBm)	Required Limit (dBm)
11	2405	20	19.17	30
18	2440	20	19.14	30
25	2475	20	**19.18**	30
26	2480	10	9.58	30
CH	**Frequency (MHz)**	**Power Setting**	**Avg. Output Power (dBm)**	**Required Limit (dBm)**
11	2405	20	19.12	30
18	2440	20	19.11	30
25	2475	20	19.14	30
26	2480	10	9.54	30

Note:

1.Measured by power meter, cable loss 20.87 dB + Duty cycle factor has been offseted to the power meter for Avg. power and cable loss has been offseted for Peak power measurement.

9 RADIATED BANDEDGE AND SPURIOUS EMISSION MEASUREMENT

Spurious Emission

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. In addition, radiated emissions which fall in the restricted bands must also comply with the §15.209 limit as below.

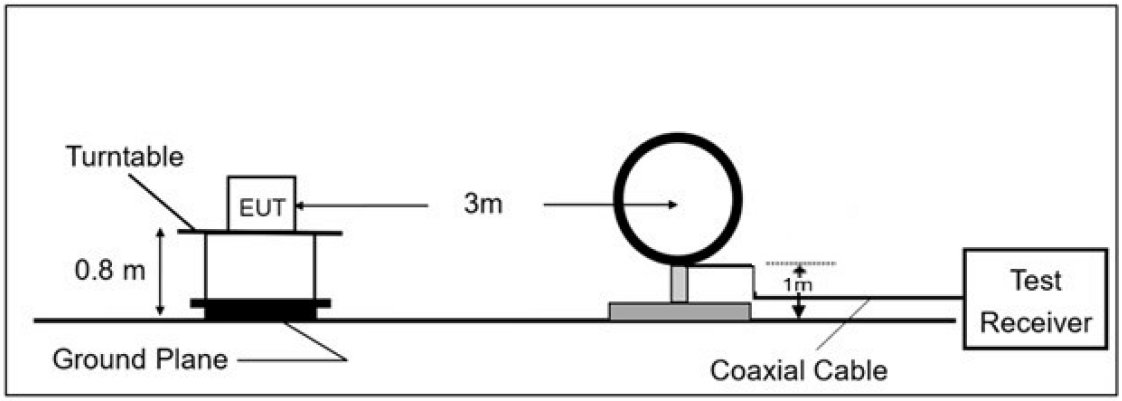
And according to §15.33(a) (1) for an intentional radiator operates below 10GHz, the frequency range of measurements: to the tenth harmonic of the highest fundamental frequency or to 40GHz, whichever is lower.

Frequency (MHz)	Field strength (microvolts/meter)	Distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

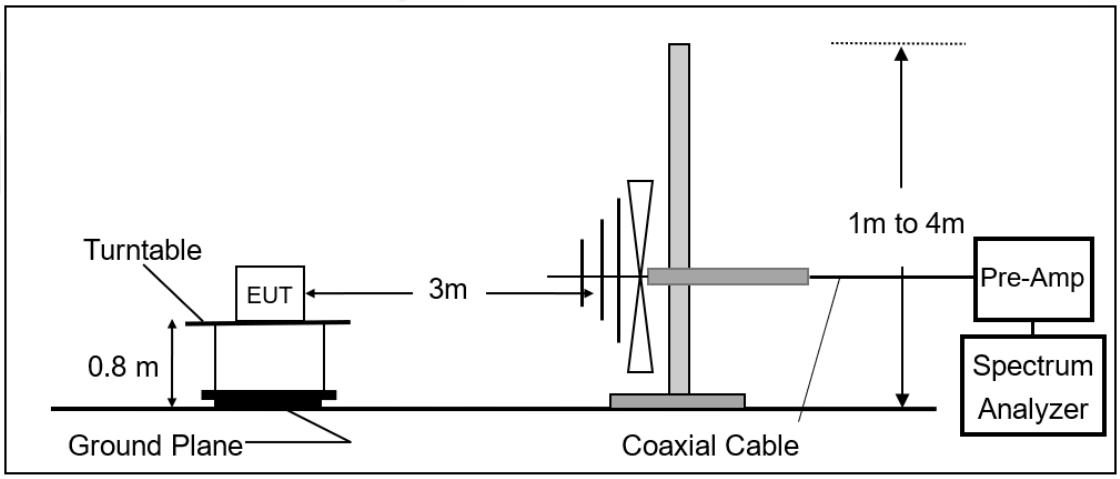
Note: The lower limit shall apply at the transition frequencies.

9.1 Test Setup

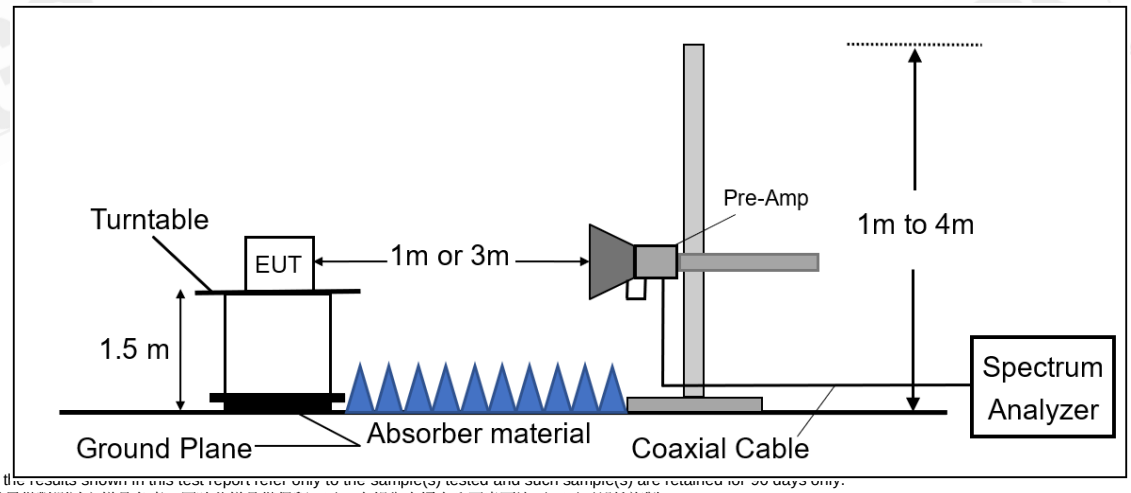
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz.



(B) Radiated Emission Test Set-Up, Frequency From 30MHz to 1000MHz.



(C) Radiated Emission Test Set-Up, Frequency Above 1GHz.



9.2 Measurement Procedure

1. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance.
2. The EUT was placed on a turn table with 0.8m for frequency< 1GHz and 1.5m for frequency> 1GHz above ground plane.
3. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
4. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
5. Set the spectrum analyzer as RBW=100 kHz and VBW=300 kHz for Peak Detector (PK) at frequency between 30MHz and 1 GHz.
6. Use receiver mode as RBW=120 kHz for Quasi-peak (QP) at frequency between 30MHz and 1 GHz.
7. Set the spectrum analyzer as RBW=1 MHz, VBW=3 MHz for Maximum Emission Measurements at frequency above 1 GHz.
8. Set the spectrum analyzer as RBW=1 MHz, VBW=10 Hz (Duty cycle > 98%) or VBW ≥ 1/T (Duty cycle < 98%) for Average Emission Measurements at frequency above 1 GHz.
9. When measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made “while keeping the antenna in the ‘cone of radiation’ from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response.” is still within the 3dB illumination BW of the measurement antenna.
10. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
11. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
12. Repeat above procedures until all default test channel measured were complete.

9.3 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where *FS = Field Strength* *CL = Cable Attenuation Factor (Cable Loss)*
RA = Reading Amplitude *AG = Amplifier Gain*
AF = Antenna Factor

*The limit of the emission level is expressed in dBuV/m, which converts 20*log(uV/m)*

Actual FS(dBμV/m) = SPA. Reading level(dBμV) + Factor(dB)

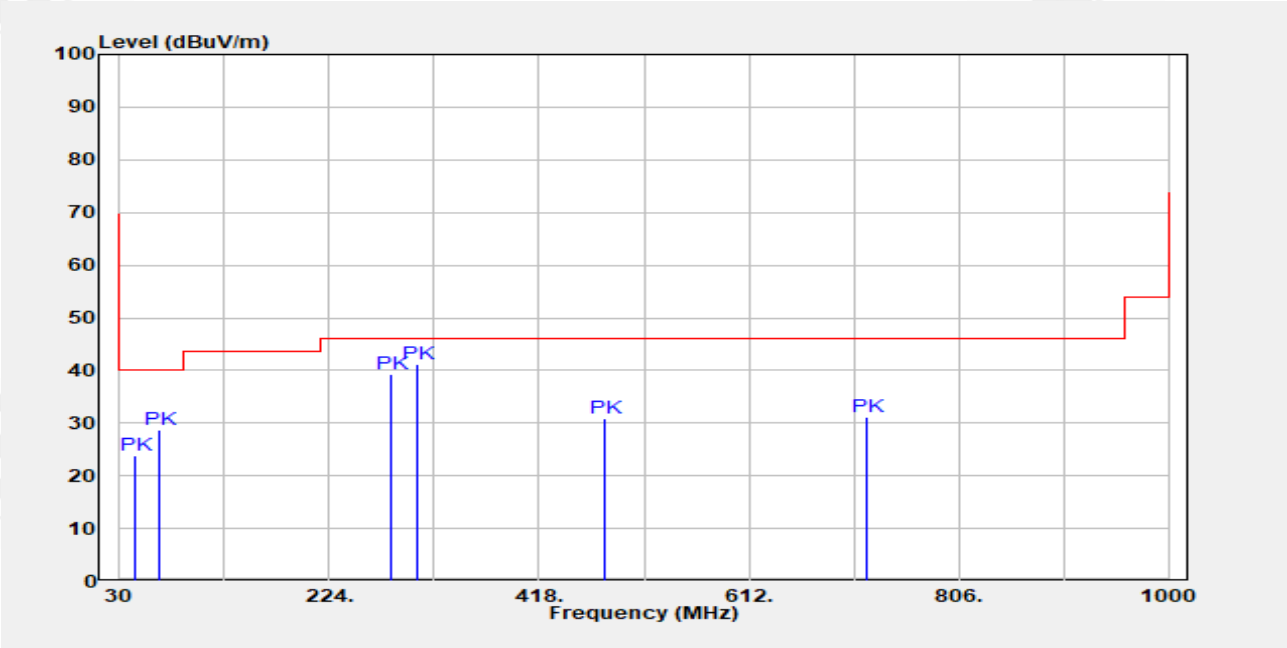
Factor(dB) = Antenna Factor(dBμV/m) + Cable Loss(dB) – Pre_Amplifier Gain(dB)

9.4 Test Results of Radiated Spurious Emissions from 9 kHz to 30 MHz

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit per 15.31(o) was not reported.

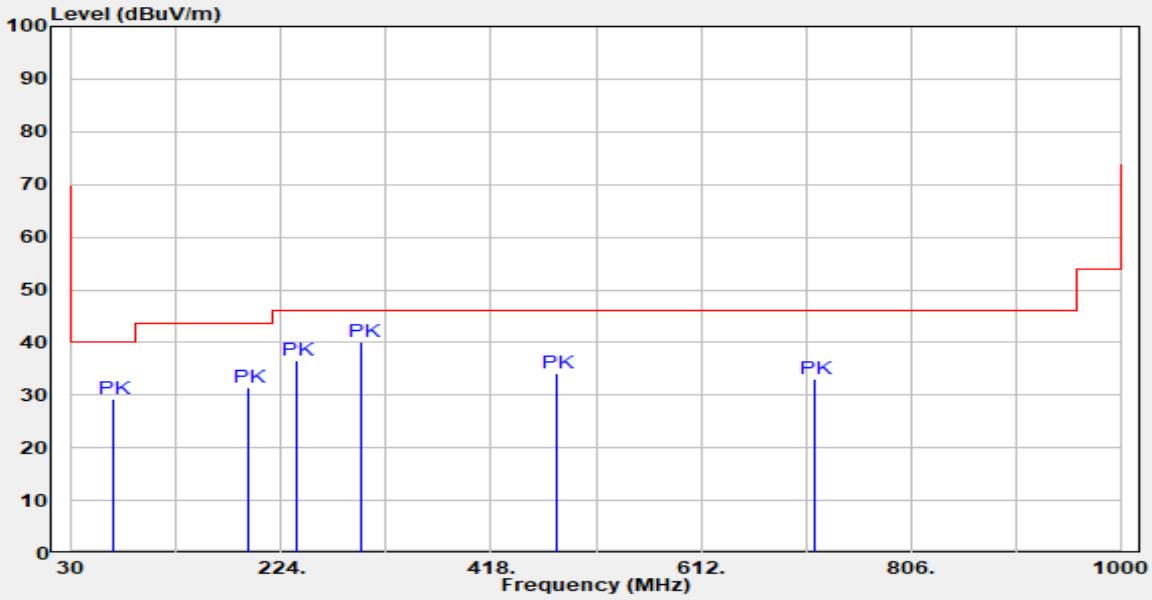
9.4.1 Radiated Spurious Emission

Report Number	:TERF2503001019ER	Test Site	:SAC 2
Operation Mode	:Thread	Test Date	:2025-03-21
Test Frequency	:2440 MHz	Temp./Humi.	:22.5℃/59%
Test Mode	:Tx	Antenna Pol.	:Vertical
EUT Pol	:H Plane	Engineer	:GN Lin



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
43.580	Peak	36.66	-12.80	23.86	40.00	-16.14
65.890	Peak	43.11	-14.35	28.76	40.00	-11.24
281.230	Peak	51.49	-12.25	39.25	46.00	-6.75
304.510	Peak	52.78	-11.69	41.09	46.00	-4.91
478.140	Peak	37.88	-7.08	30.80	46.00	-15.20
721.610	Peak	33.51	-2.38	31.13	46.00	-14.87

Report Number	:TERF2503001019ER	Test Site	:SAC 2
Operation Mode	:Thread	Test Date	:2025-03-21
Test Frequency	:2440 MHz	Temp./Humi.	:22.5℃/59%
Test Mode	:Tx	Antenna Pol.	:Horizontal
EUT Pol	:H Plane	Engineer	:GN Lin



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
68.800	Peak	43.91	-14.77	29.14	40.00	-10.86
193.930	Peak	46.85	-15.51	31.34	43.50	-12.16
238.550	Peak	50.66	-14.13	36.52	46.00	-9.48
298.690	Peak	52.01	-11.83	40.18	46.00	-5.82
479.110	Peak	41.19	-7.06	34.13	46.00	-11.87
717.730	Peak	35.52	-2.49	33.03	46.00	-12.97

~ End of Report ~