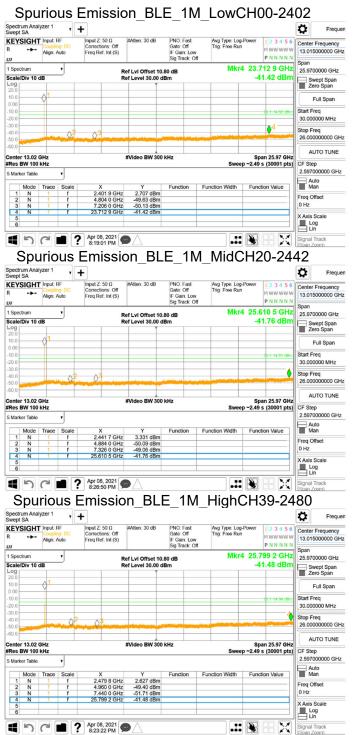
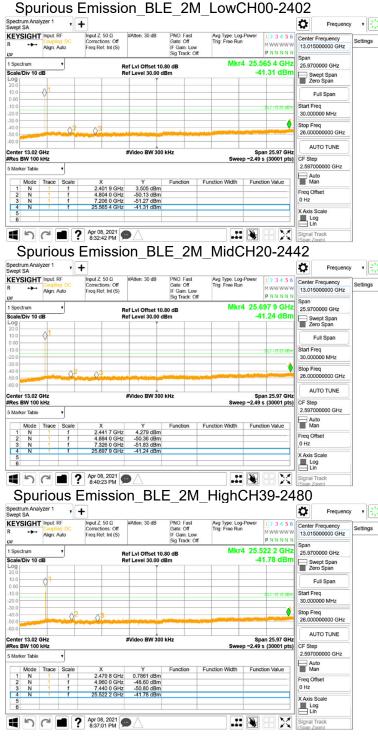


Report No.: E2/2021/30017 Page: 41 of 133





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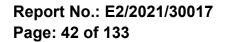
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9.5.2 SANT-Dipole No.4 & SANT-Monopole No.7

Reference Level BLE1M LowCH00-2402



Reference Level BLE1M MidCH20-2442



Reference Level BLE1M HighCH39-2480

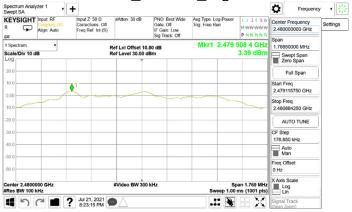


Reference Level_BLE2M_LowCH00-2402 Ö Frequency v · + KEYSIGHT Input RF PNO: Best Wide Gate: Off IF Gain: Low Sig Track: Off Atten: 30 dB Avg Type: Log-Po Trig: Free Run Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) Center Frequency 2.402000000 GHz Settings \mathbf{P} Align: Auto Mkr1 2.401 505 3 GHz 1.77300000 MHz ٠ Ref Lvi Offset 10.80 dB Ref Level 30.00 dBm Scale/Div 10 dB 3.86 dE Swept Span Zero Span Full Span Start Freq ٥ 2.401113500 GH Stop Freq 2.402886500 GHz AUTO TUNE CF Step 177.300 kHz Auto Man Freq Offset 0 Hz Span 1.773 MHz Sweep 1.00 ms (1001 pts) GHz Video BW 300 kHz Center 2.4020000 #Res BW 100 kHz ■ つ C ■ ? Jul 21, 2021 \mathbb{H}

Reference Level BLE2M MidCH20-2442

Swept KEYS R		Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Int (S)	#Atten: 30 dB	PNO: Best Wide Gate: Off IF Gain: Low Sig Track: Off	Avg Type: L Trig: Free R	og-Power un	123456 MWWWWW PNNNNN		Frequency 000000 GHz	Settin
1 Spec	trum	,		Ref Lvi Offset 10	80 dB	Mkr1	2.441	505 3 GHz	1.773	00000 MHz	
Scale/	'Div 10 d	B		Ref Level 30.00 d	IBm			3.73 dBm		wept Span ero Span	
20.0										Full Span	
10.0			Ľ		_				Start F 2.441	req 113500 GHz	
10.0	~						~		Stop F 2.442	req 886500 GHz	
20.0									A	UTO TUNE	
30.0									CF Ste 177.3	ep 00 kHz	
-40.0									E A	uto an	
60.0									Freq C 0 Hz	Mfset	
	r 2.44200 BW 100 P			#Video BW 300	kHz	Sw		pan 1.773 MHz ms (1001 pts)	X Axis	pq	
4	5		Jul 21, 2021 8:26:34 PM				: 😵		Signal (Span 2	Track	

Reference Level BLE2M HighCH39-2480

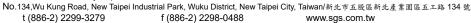


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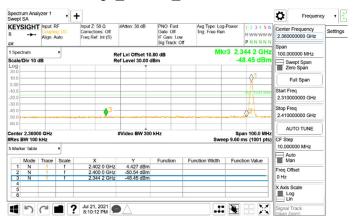
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台灣檢驗	科技服	e份有	限	公司	J



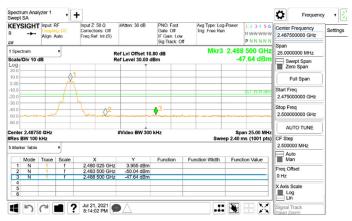


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Band Edge_BLE1M_ LowCH00-2402



Band Edge_BLE1M_ HighCH39-2480



Band Edge BLE2M LowCH00-2402 ¢ - R Spectrum A Swept SA Freq KEYSIGHT Input R out Z: 50 Ω rrections: Off Center Fr 2.360000 Settings -PNNNN 5pan 100.000000 M 1 Soe kr2 2.400 0 GH Ref Lvi Offset 10.80 dE Ref Level 30.00 dBm Scale/Div 10 dE -28.14 dE Swept Span Zero Span Full Span Start Freq 2.31000000 GHz Stop Freq 2.410000000 GHz AUTO TUNE Center 2.36000 #Res BW 100 k CF Step 10.000000 MHz Auto Man Mode Trace Scale Function Function Width Function Value 2.401 5 GHz 2.400 0 GHz 4.076 dBm -28.14 dBm Freq Offse 0 Hz X Axis Sci Log Ul 21, 2021 の .# 🕃 🗄 🗙

Band Edge_BLE2M_ HighCH39-2480



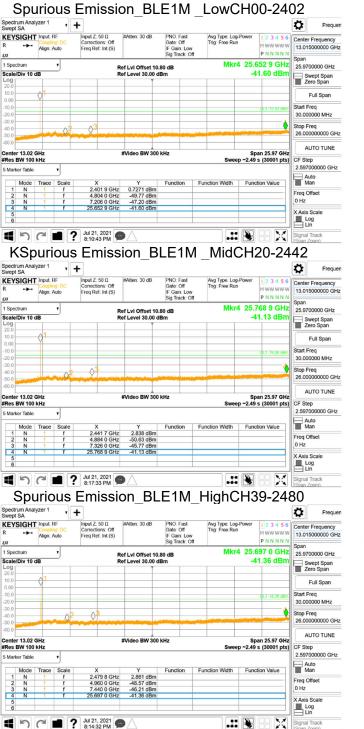
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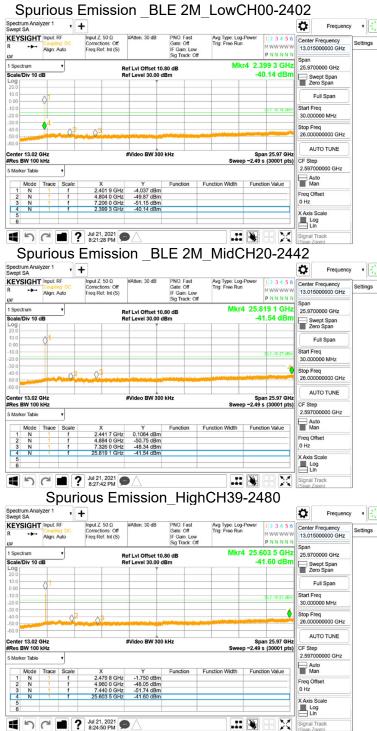
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10 RADIATED BANDEDGE AND SPURIOUS EMISSION MEASUREMENT

10.1 Standard Applicable

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 and RSS-Gen §8.9 Table 5 and 6 limit as below.

And according to §15.33(a) (1) & RSS-Gen §6.13.2.a 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:

- 1. The lower limit shall apply at the transition frequencies.
- 2. Emission level (dB μ V/m) = 20 log Emission level (μ V/m)

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10.2 Measurement Equipment Used

Radiated Emission Test Site: SAC D					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Broadband Antenna	TESEQ	CBL 6112D	35240	09/08/2020	09/07/2021
Horn Antenna	Schwarzbeck	BBHA9120D	1341	06/04/2021	06/03/2022
Horn Antenna	Schwarzbeck	BBHA9170	185	07/30/2020	07/29/2021
Loop Antenna	ETS.LINDGREN	6502	143303	05/07/2021	05/06/2022
3m Site NSA	SGS	966 chamber D	N/A	07/12/2021	07/11/2022
Spectrum Analyzer	KEYSIGHT	N9010A	MY54510568	03/22/2021	03/21/2022
Pre-Amplifier	EMC Instru- ments	EMC184045B	980135	10/27/2020	10/26/2021
Pre-Amplifier	EMC Instru- ments	EMC9135	980234	11/19/2020	11/18/2021
Pre-Amplifier	EMC Instru- ments	EMC12630SE	980271	11/19/2020	11/18/2021
Attenuator	Marvelous	WATT-218FS-10	RF25	11/19/2020	11/18/2021
High Pass Filter	R&S	F13 HPF 3GHz	RF175	11/19/2020	11/18/2021
Lowpass Filter	Woken	EWT-56-0019	RF173	11/19/2020	11/18/2021
Notch Filter	Woken	EWT-54-0038	RF178	11/19/2020	11/18/2021
Coaxial Cable	Huber Suhner	EMC106-SM-SM-7200	150703	11/19/2020	11/18/2021
Coaxial Cable	Huber+Suhner	RG 214/U	W21.01	11/19/2020	11/18/2021
Coaxial Cable	Huber Suhner	SUCOFLEX 104	MY17413/4	11/19/2020	11/18/2021
Notebook	Lenovo	T470	P0001293	N/A	N/A
POE Power supply	GRT	GRT-240100	1406002327	N.C.R	N.C.R
Test Software	audix	e3	20923 sgs Ver.9	N.C.R	N.C.R

Note: N.C.R refers to Not Calibrated Required

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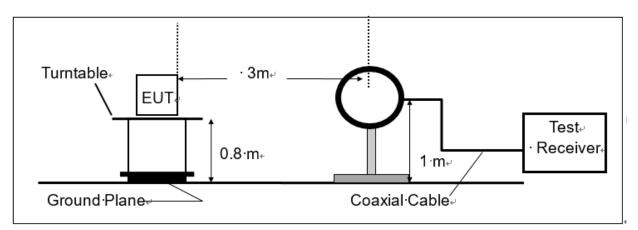
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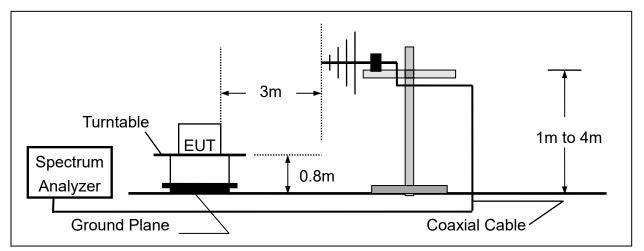


10.3 Test SET-UP

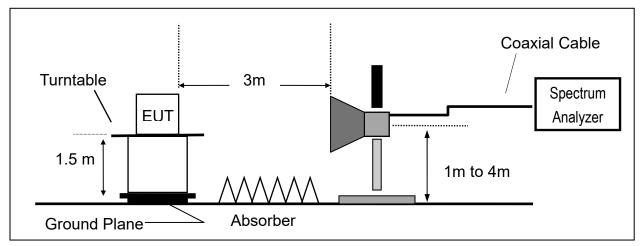
(A) Radiated Emission Test Set-UP Frequency Below 30MHz.



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



(C) Radiated Emission Test Set-UP Frequency Over 1 GHz



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10.4 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 plan.
- 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=120 kHz and VBW=300 kHz for Peak Detector (PK) and Quasi-peak (QP) at frequency below 1 GHz.
- 6. Set the spectrum analyzer as RBW=1 MHz, VBW=3 MHz for Peak Detector at frequency above 1 GHz.
- 7. Set the spectrum analyzer as RBW=1 MHz, VBW=10 Hz (Duty cycle > 98%) or VBW ≥ 1/T (Duty cycle < 98%) for Average Detector at frequency above 1 GHz.
- 8. 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.
- 9. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 10. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. On spectrum, change spectrum mode in linear display mode, and reduce VBW = 10Hz if average reading is measured.
- 11.Repeat above procedures until all default test channel measured were complete.

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10.5 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 RA = Reading Amplitude AF = Antenna Factor *CL* = Cable Attenuation Factor (Cable Loss) *AG* = Amplifier Gain

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

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB) Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre_Amplifier Gain(dB)

10.6 Test Results of Radiated Spurious Emissions form 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) & RSS-GEN §6.13.2 was not reported.

10.7 Measurement Result:

Note: Refer to next page spectrum analyzer data chart and tabular data sheets.

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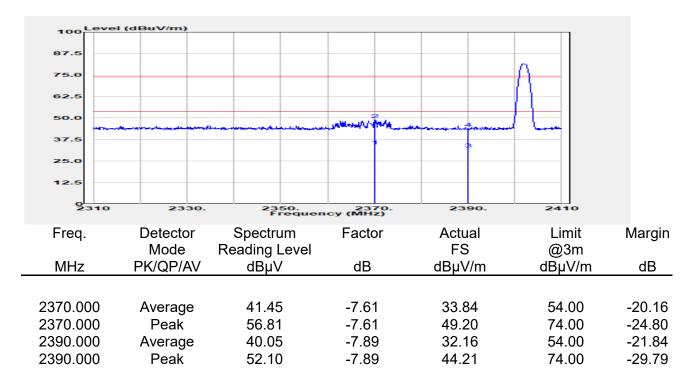


10.7.1 **Radiated Band Edge Measurement Result**

10.7.2 **DANT-Dipole Ant No.5**

BLE 1M

Report Number	:E2/2021/30017	Test Site	:SAC D
Operation Mode	:BLE 1M	Test Date	:2021-08-03
Test Frequency	:2402 MHz	Temp./Humi.	:21.1/65
Test Mode	:BE CH LOW	Antenna Pol.	:Vertical
EUT Pol	:E1 Plane	Engineer	:Andy Wang
Note	:NO.5		



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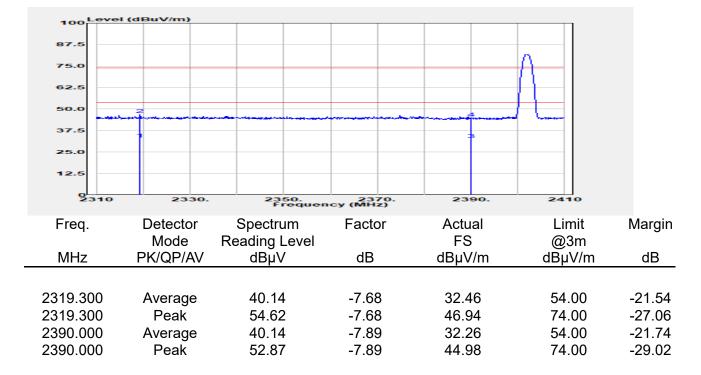
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Report Number	:E2/2021/30017
Operation Mode	:BLE 1M
Test Frequency	:2402 MHz
Test Mode	:BE CH LOW
EUT Pol	:E1 Plane
Note	:NO.5

Test Site	:SAC D
Test Date	:2021-08-03
Temp./Humi.	:21.1/65
Antenna Pol.	:Horizontal
Engineer	:Andy Wang



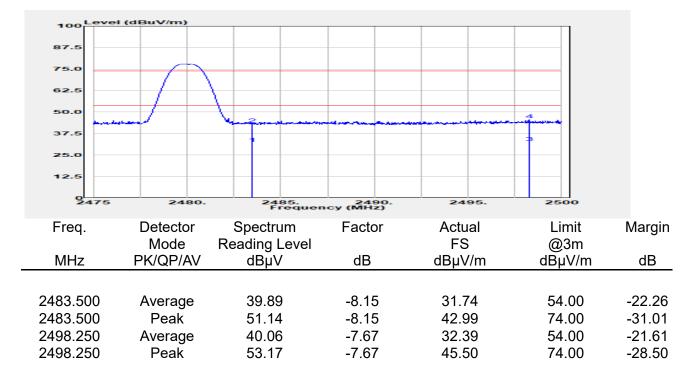
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Report Number	:E2/2021/30017
Operation Mode	:BLE 1M
Test Frequency	:2480 MHz
Test Mode	:BE CH HIGH
EUT Pol	:E1 Plane
Note	:NO.5

Test Site	:SAC D
Test Date	:2021-08-03
Temp./Humi.	:21.1/65
Antenna Pol.	:Vertical
Engineer	:Andy Wang



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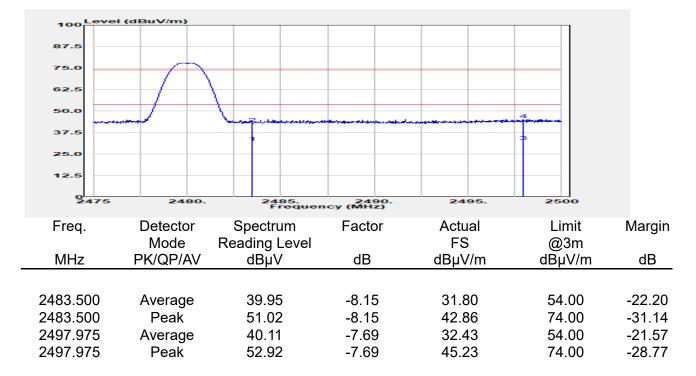
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Report Number	:E2/2021/30017
Operation Mode	:BLE 1M
Test Frequency	:2480 MHz
Test Mode	:BE CH HIGH
EUT Pol	:E1 Plane
Note	:NO.5

Test Site	:SAC D
Test Date	:2021-08-03
Temp./Humi.	:21.1/65
Antenna Pol.	:Horizontal
Engineer	:Andy Wang



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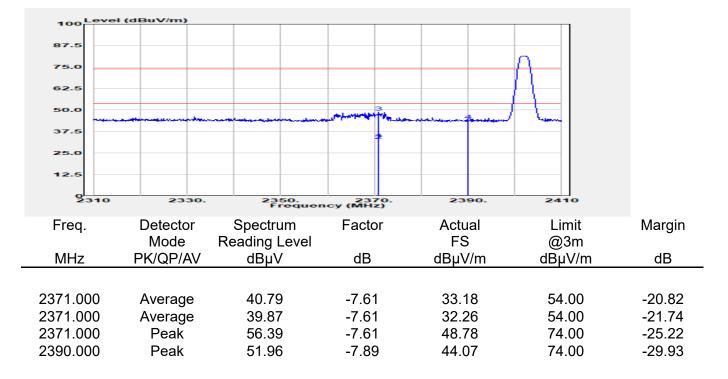


Report No.: E2/2021/30017 Page: 54 of 133

BLE 2M

Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2402 MHz
Test Mode	:BE CH LOW
EUT Pol	:E1 Plane
Note	:NO.5

Test Site	:SAC D
Test Date	:2021-08-03
Temp./Humi.	:21.1/65
Antenna Pol.	:Vertical
Engineer	:Andy Wang



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Report Number Operation Mode Test Frequency Test Mode EUT Pol	:E2/2021/3 :BLE 2M :2402 MH3 :BE CH L0 :E1 Plane	z		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC D :2021-08-03 :21.1/65 :Horizontal :Andy Wang	
Note	:NO.5			g		
100 Level (dBuV/m)					
87.5						
75.0					$-\Lambda$	
62.5						
50.0 Autor	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				and have	
37.5				3		
25.0						
12.5						
2310	2330.	2350. Frequen	2370 cy (MHz)	. 2390.	2410	
Freq.	Detector	Spectrum	Factor	Actual FS	Limit	Margin
MHz	Mode PK/QP/AV	Reading Level dBµV	dB	۲۵ dBµV/m	@3m dBµV/m	dB
		40pt	42			
2329.100	Average	40.14	-7.64	32.50	54.00	-21.50
2329.100	Peak	53.64	-7.64	46.00	74.00	-28.00
2390.000	Average	40.13	-7.89	32.25	54.00	-21.75
2390.000	Peak	52.77	-7.89	44.88	74.00	-29.12

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Report Number	:E2/2021/30	017		Test Site	:SAC D	
Operation Mode	:BLE 2M			Test Date	:2021-08-03	
Test Frequency	:2480 MHz			Temp./Humi.	:21.1/65	
Test Mode	:BE CH HIG	θH		Antenna Pol.	:Vertical	
EUT Pol	:E1 Plane			Engineer	:Andy Wang	
Note	:NO.5			-	, ,	
100 Level (dBuV/m)					
87.5						
75.0	+					
62.5	+/+					
50.0		2			4	
37.5					3	
25.0						
12.5						
2475	2480.	2485. Frequen	2490 cy (MHz)	2495.	2500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
		Reading Level	10	FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2483.500	Average	39.74	-8.15	31.59	54.00	-22.41
2483.500	Peak	51.44	-8.15	43.29	74.00	-30.71
2497.600	Average	39.86	-7.71	32.15	54.00	-21.85
2497.600	Peak	52.59	-7.71	44.88	74.00	-29.12

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-28.62

:SAC D



:E2/2021/30017

Report Number

2483.550

Peak

Operation Mode Test Frequency Test Mode EUT Pol Note		1		Test Date Temp./Humi. Antenna Pol. Engineer	:2021-08-03 :21.1/65 :Horizontal :Andy Wang	
100 Level (87.5 75.0 62.5 50.0 37.5 25.0 12.5 2475	(dBuV/m) 2480.	2485. Frequen	2490. cy (MHz)	2495.	2500	
Freq. MHz	Detector Mode Ro PK/QP/AV	Spectrum eading Level dBµV	Factor dB	Actual FS dBuV/m	Limit @3m dBµV/m	Margin dB
		apha	чD	dBµV/m	υσμν/π	uD
2483.500 2483.500 2483.550	Average Peak Average	39.79 51.70 39.92	-8.15 -8.15 -8.15	31.64 43.55 31.77	54.00 74.00 54.00	-22.36 -30.45 -22.23

-8.15

45.38

74.00

Test Site

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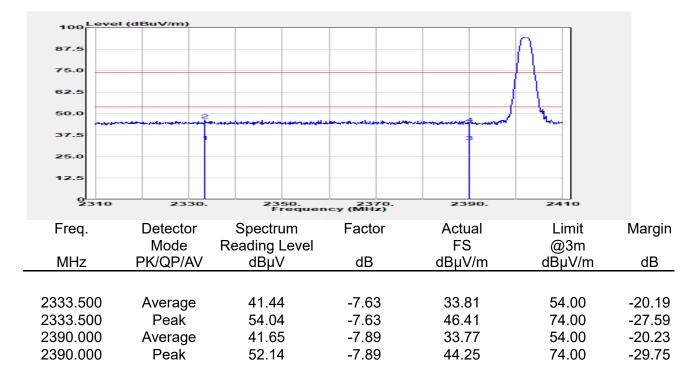
53.53

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10.7.3 SANT-Dipole No.4

BLE1M			
Report Number	:E2/2021/30017	Test Site	:966 Chamber D
Operation Mode	:BLE 1M	Test Date	:2021-07-19
Test Frequency	:2402 MHz	Temp./Humi.	:20.3/65
Test Mode	:BE CH LOW	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Jack Tseng
Ant	:NO.4 Dipole		



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Report Number Operation Mode Test Frequency Test Mode EUT Pol Ant	:E2/2021/3 :BLE 1M :2402 MHz :BE CH LO :E2 Plane :NO.4 Dipo	W		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:966 Chamber D :2021-07-19 :20.3/65 :Horizontal :Jack Tseng	
	.110.4 Dipo					
Level (1BuV/m)					
100 Level (0					Δ	
75.0						
62.5						
50.0						
37.5	lyakardal and the second		wards the gas	un and a second	~ ~	
25.0				3		
12.5						
2310	2330.	2350. Frequen	2370. cy (MHz)	2390.	2410	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
MHz	Mode PK/QP/AV	Reading Level dBµV	dB	FS dBµV/m	@3m dBµV/m	dB
		ασμν	uD	dbµv/m	ασμν/m	
2387.100	Average	43.08	-7.80	35.28	54.00	-18.72
2387.100	Peak	53.80	-7.80	46.00	74.00	-28.00
2390.000	Average	41.75	-7.89	33.87	54.00	-20.13
2390.000	Peak	51.47	-7.89	43.58	74.00	-30.42

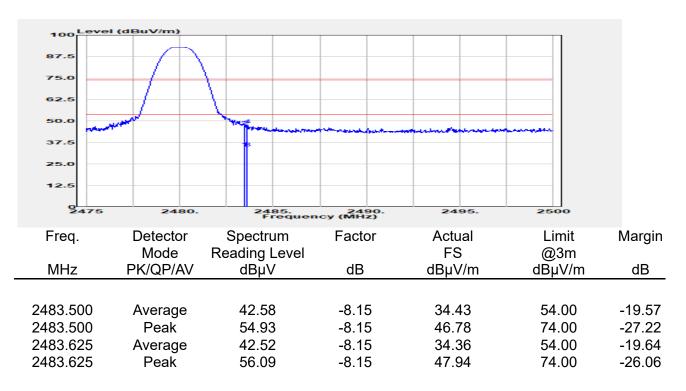
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Report Number	:E2/2021/30017
Operation Mode	:BLE 1M
Test Frequency	:2480 MHz
Test Mode	:BE CH HIGH
EUT Pol	:E2 Plane
Ant	:NO.4 Dipole

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:20.3/65
Antenna Pol.	:Vertical
Engineer	:Jack Tseng



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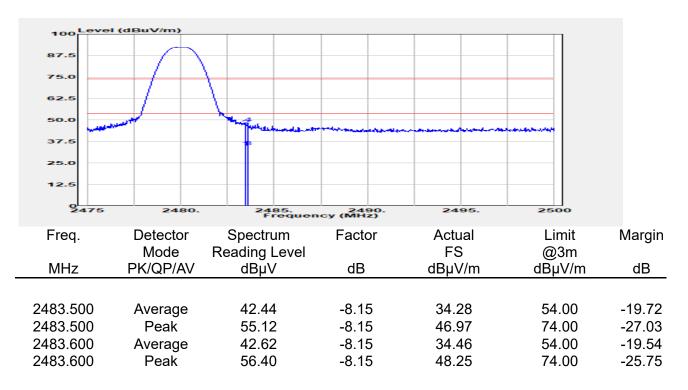
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Report Number	:E2/2021/30017
Operation Mode	:BLE 1M
Test Frequency	:2480 MHz
Test Mode	:BE CH HIGH
EUT Pol	:E2 Plane
Ant	:NO.4 Dipole

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:20.3/65
Antenna Pol.	:Horizontal
Engineer	:Jack Tseng



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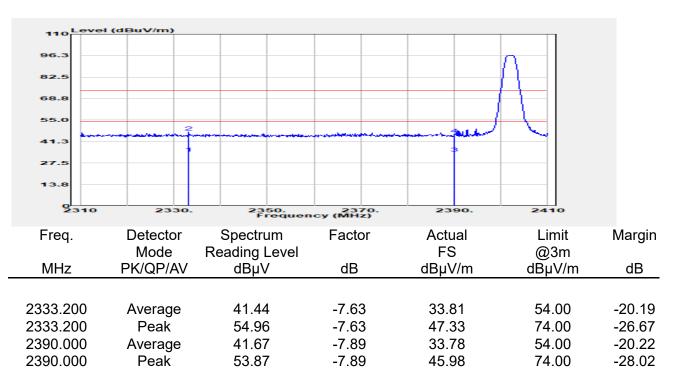


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BLE 2M

Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2402 MHz
Test Mode	:BE CH LOW
EUT Pol	:E2 Plane
Ant	:NO.4 Dipole

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:20.3/65
Antenna Pol.	:Vertical
Engineer	:Jack Tseng



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Report Number Operation Mode Test Frequency Test Mode EUT Pol Ant	:E2/2021/30 :BLE 2M :2402 MHz :BE CH LOV :E2 Plane :NO.4 Dipole	N		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:966 Chamber D :2021-07-19 :20.3/65 :Horizontal :Jack Tseng	
100 Level (c	1BuV/m)				0	
87.5					$-\mathbf{A}$	
75.0						
62.5						
50.0 2	the second s			(and - an instance of the second s		
37.5				3		
25.0						
12.5						
2310	2330.	2350. Frequen	2370. cy (MHz)	. 2390.	2410	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
		Reading Level		FS	@3m	-
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
0044 400	A	44 70	7 70	24.00	F4 00	40.04
2314.400 2314.400	Average Peak	41.79 54.22	-7.73 -7.73	34.06 46.49	54.00 74.00	-19.94 -27.51
2390.000	Average	42.03	-7.89	34.14	54.00	-19.86
2390.000	Peak	52.00	-7.89	44.11	74.00	-29.89

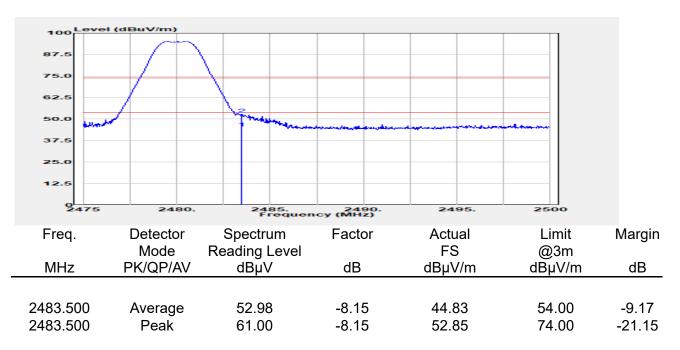
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Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2480 MHz
Test Mode	:BE CH HIGH
EUT Pol	:E2 Plane
Ant	:NO.4 Dipole

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:20.3/65
Antenna Pol.	:Vertical
Engineer	:Jack Tseng



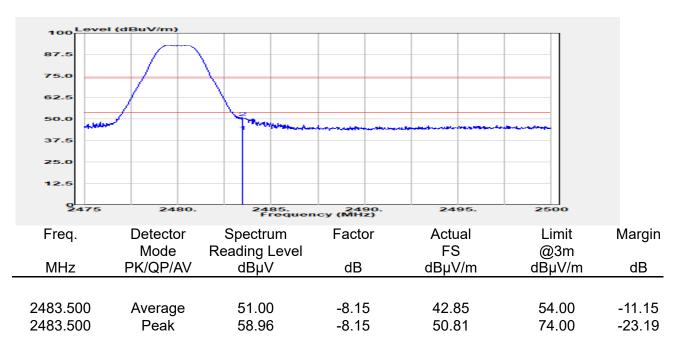
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Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2480 MHz
Test Mode	:BE CH HIGH
EUT Pol	:E2 Plane
Ant	:NO.4 Dipole

:966 Chamber D
:2021-07-19
:20.3/65
:Horizontal
:Jack Tseng



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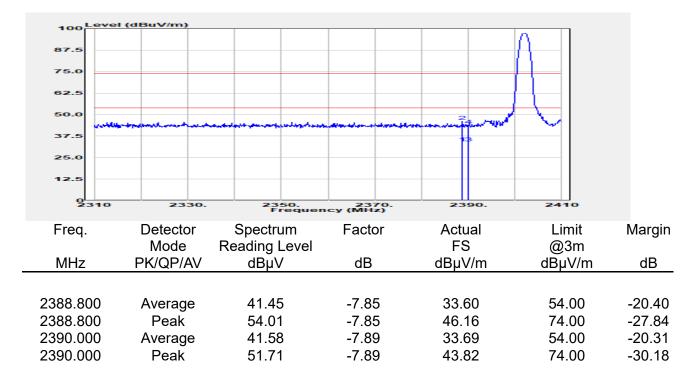
Report No.: E2/2021/30017 Page: 66 of 133

10.7.4 SANT-Monopole No.7

BLE 1M

Report Number	:E2/2021/30017
Operation Mode	:BLE 1M
Test Frequency	:2402 MHz
Test Mode	:BE CH LOW
EUT Pol	:E1 Plane
Ant	:NO.7 Monopole

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:20.3/65
Antenna Pol.	:Vertical
Engineer	:Jack Tseng



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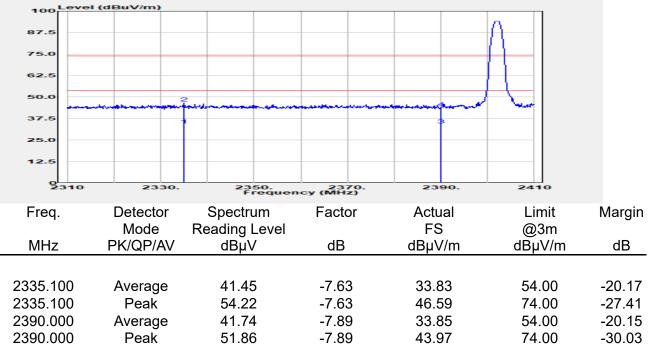
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Report Number	:E2/2021/30017
Operation Mode	:BLE 1M
Test Frequency	:2402 MHz
Test Mode	:BE CH LOW
EUT Pol	:E1 Plane
Ant	:NO.7 Monopole

:966 Chamber D
:2021-07-19
:20.3/65
:Horizontal
:Jack Tseng



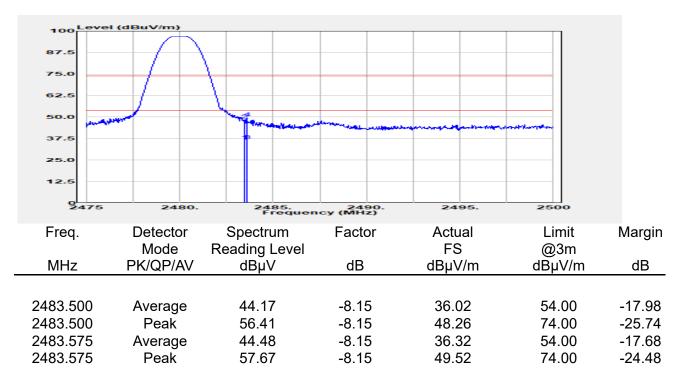
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Report Number	:E2/2021/30017
Operation Mode	:BLE 1M
Test Frequency	:2480 MHz
Test Mode	:BE CH HIGH
EUT Pol	:E1 Plane
Ant	:NO.7 Monopole

:966 Chamber D
:2021-07-19
:20.3/65
:Vertical
:Jack Tseng



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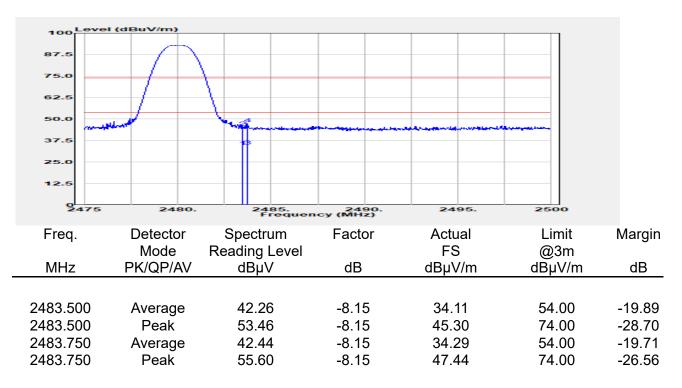
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Report Number	:E2/2021/30017
Operation Mode	:BLE 1M
Test Frequency	:2480 MHz
Test Mode	:BE CH HIGH
EUT Pol	:E1 Plane
Ant	:NO.7 Monopole

:966 Chamber D
:2021-07-19
:20.3/65
:Horizontal
:Jack Tseng



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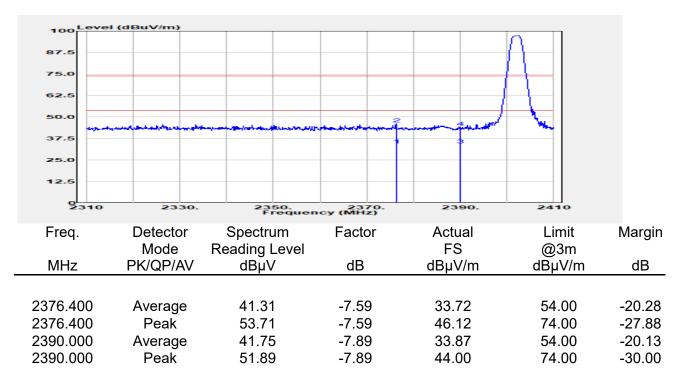
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BLE 2M

Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2402 MHz
Test Mode	:BE CH LOW
EUT Pol	:E1 Plane
Ant	:NO.7 Monopole

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:20.3/65
Antenna Pol.	:Vertical
Engineer	:Jack Tseng



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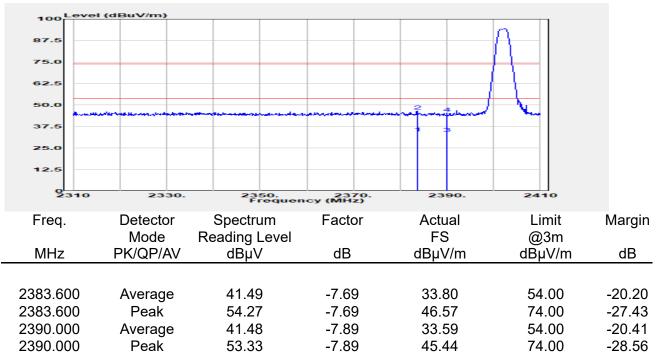
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Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2402 MHz
Test Mode	:BE CH LOW
EUT Pol	:E1 Plane
Ant	:NO.7 Monopole

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:20.3/65
Antenna Pol.	:Horizontal
Engineer	:Jack Tseng



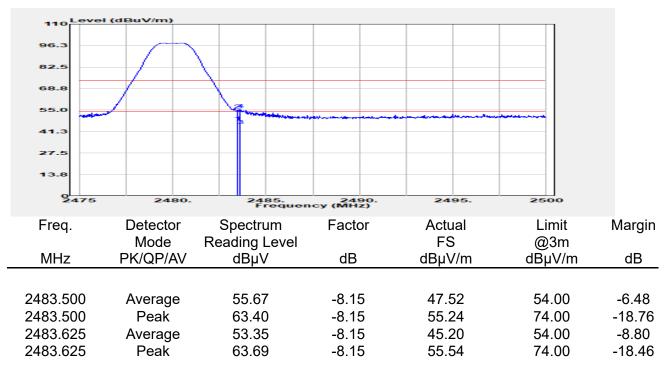
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Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2480 MHz
Test Mode	:BE CH HIGH
EUT Pol	:E1 Plane
Ant	:NO.7 Monopole

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:20.3/65
Antenna Pol.	:Vertical
Engineer	:Jack Tseng



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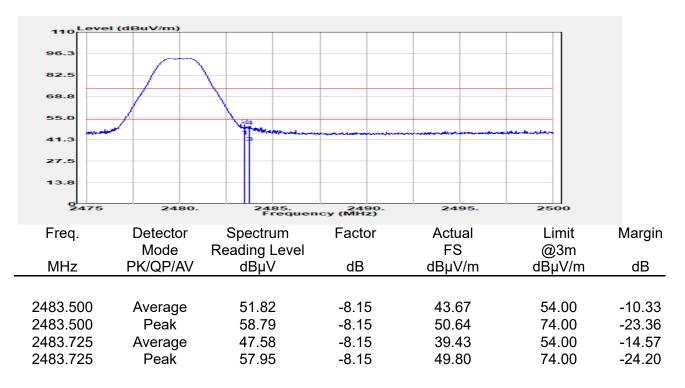
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Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2480 MHz
Test Mode	:BE CH HIGH
EUT Pol	:E1 Plane
Ant	:NO.7 Monopole

:966 Chamber D
:2021-07-19
:20.3/65
:Horizontal
:Jack Tseng



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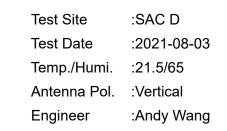
(株子方分 就可) に扱き等本 (注力列 執入(本)(転) 見 () 同可に(株)可注 (転回の人) 今 株 (若 大金 本 な) 音 (転子 小) 本 () 可 () 特 (表 (に 転 の) 音 (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に ಮ 0) ま (に) (に) ま (に)) ま ((に)) ま ((に)) ま ((に)) ま (((u))) ま ((u)) ま ((u)) = ((u)) = ((u)

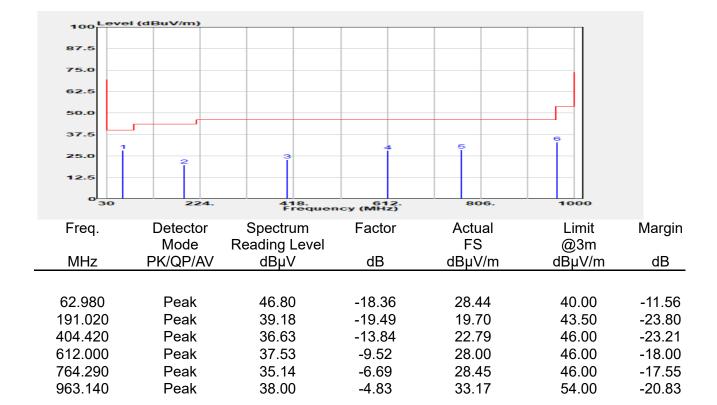


10.7.5 Radiated Spurious Emission from 30MHz to 1000MHz

10.7.6 **DANT-Dipole Ant No.5**

Report Number	:E2/2021/30017
Operation Mode	:BLE 1M
Test Frequency	:2442 MHz
Test Mode	:TX CH MID
EUT Pol	:E1 Plan
Note	:NO.5





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Report Number Operation Mode Test Frequency Test Mode EUT Pol Note	:E2/2021/3 :BLE 1M :2442 MH2 :TX CH MI :E1 Plan :NO.5	Z		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC D :2021-08-03 :21.5/65 :Horizontal :Andy Wang	
100 Level (0 87.5 75.0 62.5 50.0 37.5 25.0 12.5 0 30	dBuV/m)	3	4 612. Ccy (MH2)	5		
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
49.400 181.320 323.910 569.320 730.340 974.780	Peak Peak Peak Peak Peak Peak	39.48 39.23 35.92 35.97 41.34 37.17	-17.68 -18.09 -15.20 -10.40 -7.27 -4.38	21.79 21.14 20.71 25.57 34.06 32.79	40.00 43.50 46.00 46.00 46.00 54.00	-18.21 -22.36 -25.29 -20.43 -11.94 -21.21

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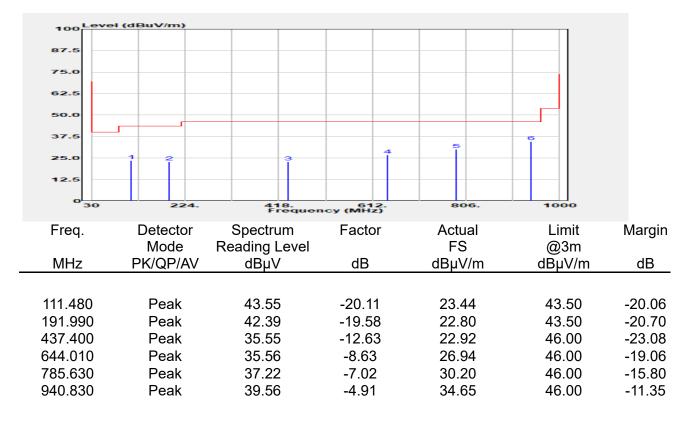


Report No.: E2/2021/30017 Page: 76 of 133

BLE2M

Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2442 MHz
Test Mode	:TX CH MID
EUT Pol	:E1 Plan
Note	:NO.5

Test Site	:SAC D
Test Date	:2021-08-04
Temp./Humi.	:21.5/65
Antenna Pol.	:Vertical
Engineer	:Andy Wang



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Report Number	:E2/2021/30017		Test Site	:SAC D	
Operation Mode	:BLE 2M		Test Date	:2021-08-03	
Test Frequency	:2442 MHz		Temp./Humi.	:21.5/65	
Test Mode	:TX CH MID		Antenna Pol.	:Horizontal	
EUT Pol	:E1 Plan		Engineer	:Andy Wang	
Note	:NO.5		0	, ,	
100 Level (d	IBuV/m)				
87.5					
75.0					
62.5					
50.0					
37.5			5	6	
25.0	2	3 4	Ť		
12.5					
0 30	224. 418. Frequ	612 iency (MHz)	. 806.	1000	
Freq.	Detector Spectrum	Factor		Limit	Margin
MHz	Mode Reading Leve PK/QP/AV dBµV	el dB	FS dBµV/m	@3m dBµV/m	dB
				<u> </u>	
79.470	Peak 37.24	-21.42		40.00	-24.18
198.780	Peak 36.73	-19.95		43.50	-26.73
510.150	Peak 34.45	-10.99		46.00	-22.54
586.780	Peak 36.69	-10.40		46.00	-19.71
781.750	Peak 34.80	-7.15	27.65	46.00	-18.35
891.360	Peak 38.37	-5.97	32.40	46.00	-13.60

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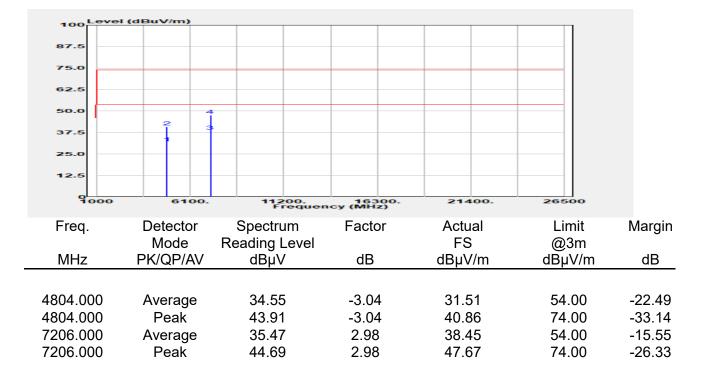


Report No.: E2/2021/30017 Page: 78 of 133

BLE2M

Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2402 MHz
Test Mode	:TX CH LOW
EUT Pol	:E1 Plan
Note	:NO.5

Test Site	:SAC D
Test Date	:2021-08-04
Temp./Humi.	:21.7/65
Antenna Pol.	:Vertical
Engineer	:Andy Wang



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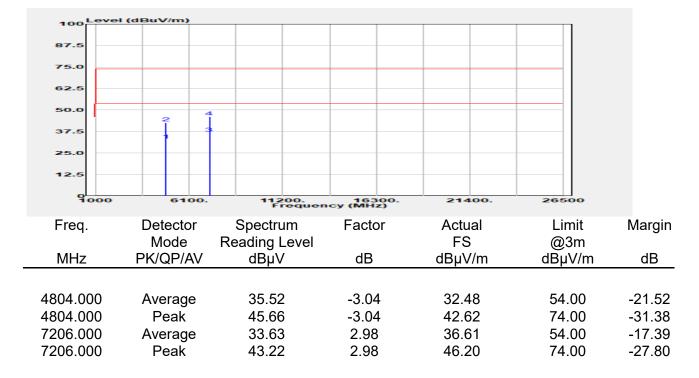
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Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2402 MHz
Test Mode	:TX CH LOW
EUT Pol	:E1 Plan
Note	:NO.5

Test Site	:SAC D
Test Date	:2021-08-04
Temp./Humi.	:21.7/65
Antenna Pol.	:Horizontal
Engineer	:Andy Wang



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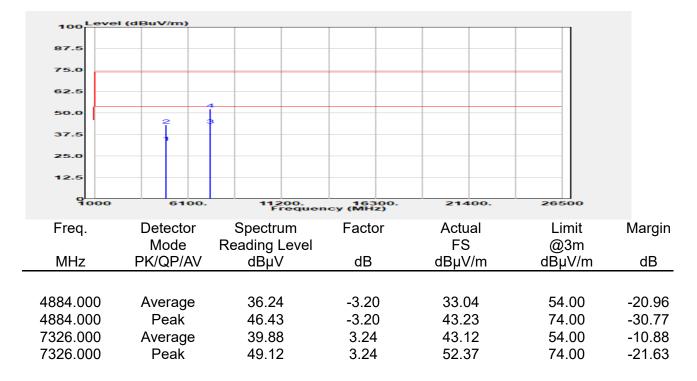
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Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2442 MHz
Test Mode	:TX CH MID
EUT Pol	:E1 Plan
Note	:NO.5

Test Site	:SAC D
Test Date	:2021-08-04
Temp./Humi.	:21.7/65
Antenna Pol.	:Vertical
Engineer	:Andy Wang



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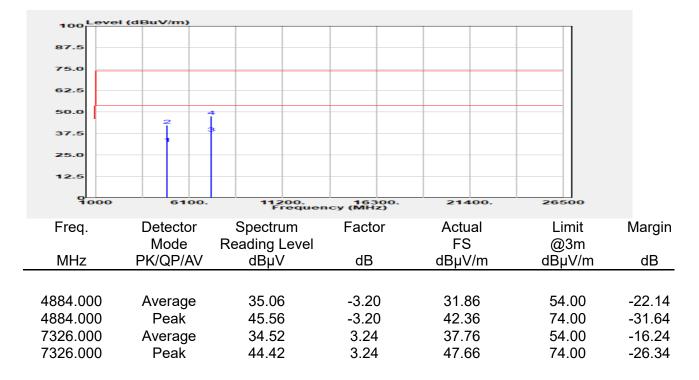
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Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2442 MHz
Test Mode	:TX CH MID
EUT Pol	:E1 Plan
Note	:NO.5

Test Site	:SAC D
Test Date	:2021-08-04
Temp./Humi.	: 21.7/65
Antenna Pol.	:Horizontal
Engineer	:Andy Wang



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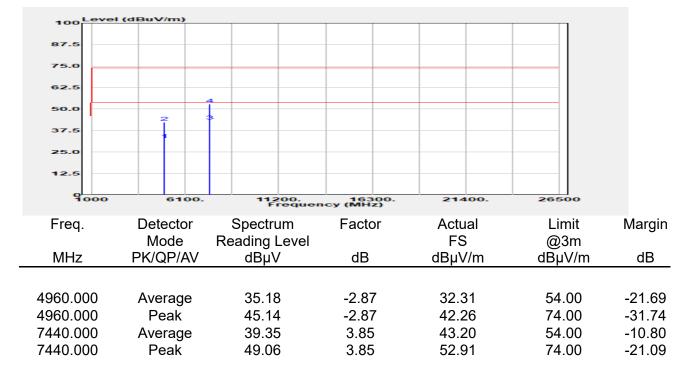
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Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2480 MHz
Test Mode	:TX CH HIGH
EUT Pol	:E1 Plan
Note	:NO.5

Test Site	:SAC D
Test Date	:2021-08-04
Temp./Humi.	: 21.7/65
Antenna Pol.	:Vertical
Engineer	:Andy Wang



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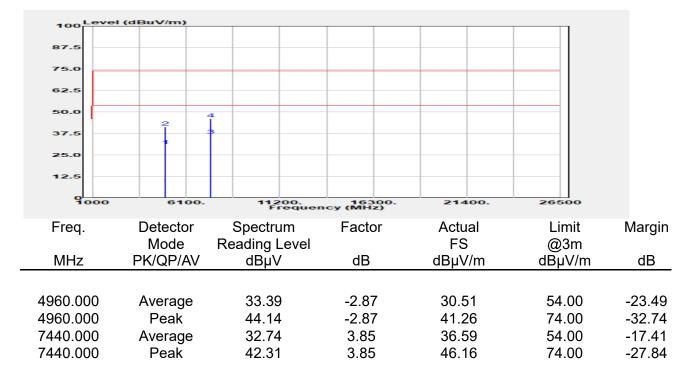
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Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2480 MHz
Test Mode	:TX CH HIGH
EUT Pol	:E1 Plan
Note	:NO.5

:SAC D
:2021-08-04
: 21.7/65
:Horizontal
:Andy Wang



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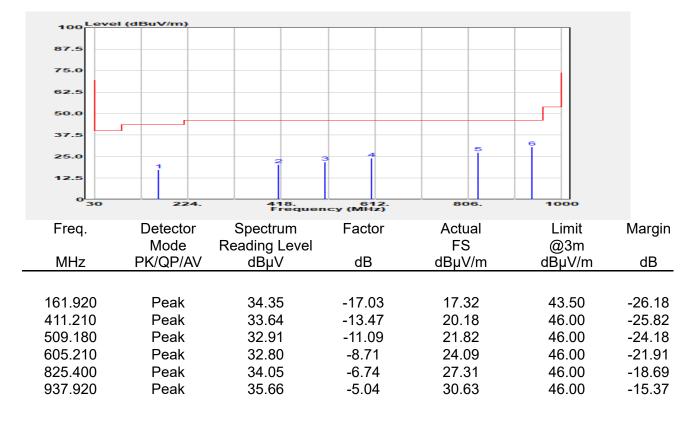
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10.7.7 SANT-Dipole No.4

:E2/2021/30017	Test Site	:966 Chamber D
:BLE 1M	Test Date	:2021-07-19
:2442 MHz	Temp./Humi.	:23.5/60
:TX CH MID	Antenna Pol.	:Vertical
:E2 Plane	Engineer	:Jack Tseng
:NO.4 Dipole		
	:BLE 1M :2442 MHz :TX CH MID :E2 Plane	:BLE 1MTest Date:2442 MHzTemp./Humi.:TX CH MIDAntenna Pol.:E2 PlaneEngineer



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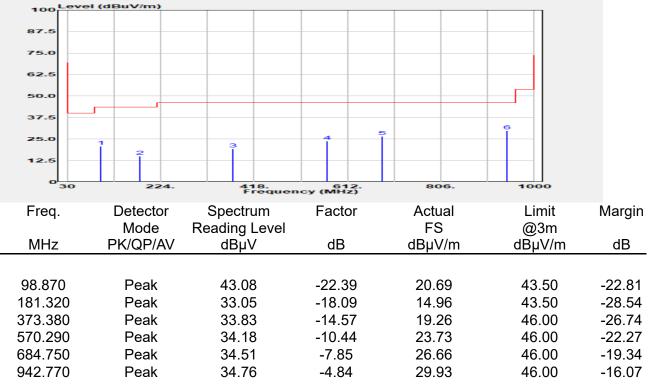
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Report Number	:E2/2021/30017
Operation Mode	:BLE 1M
Test Frequency	:2442 MHz
Test Mode	:TX CH MID
EUT Pol	:E2 Plane
Ant	:NO.4 Dipole
100 Level (d	BuV/m)
87.5	
75.0	
62.5	

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:23.5/60
Antenna Pol.	:Horizontal
Engineer	:Jack Tseng



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(株子方分 就可) に扱き等本 (注力列 執入(本)(転) 見 () 同可に(株)可注 (転回の人) 今 株 (若 大金 本 な) 音 (転子 小) 本 () 可 () 特 (表 (に 転 の) 音 (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に ಮ 0) ま (に) (に) ま (に)) ま ((に)) ま ((に)) ま ((に)) ま (((u))) ま ((u)) ま ((u)) = ((u)) = ((u)

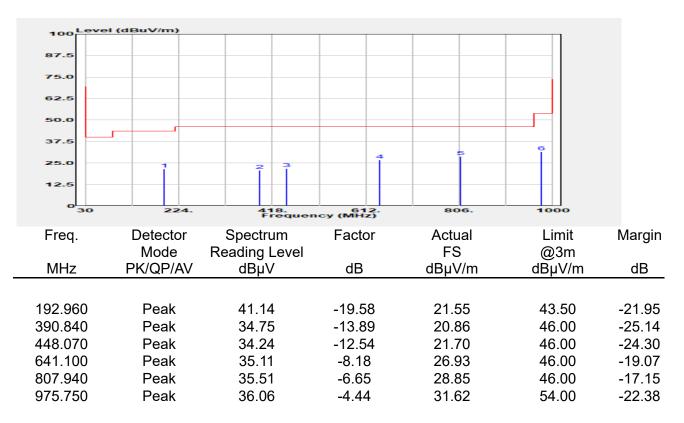


Report No.: E2/2021/30017 Page: 86 of 133

BLE2M

Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2442 MHz
Test Mode	:TX CH MID
EUT Pol	:E2 Plane
Ant	:NO.4 Dipole

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:23.5/60
Antenna Pol.	:Vertical
Engineer	:Jack Tseng



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:966 Chamber D

-23.41

Test Site



:E2/2021/30017

Report Number

962.170

Peak

Operation Mode Test Frequency Test Mode EUT Pol Ant	:BLE 2M :2442 MHz :TX CH MID :E2 Plane :NO.4 Dipole			Test Date Temp./Humi. Antenna Pol. Engineer	:2021-07-19 :23.5/60 :Horizontal :Jack Tseng	
100 Level (0 87.5 62.5 50.0 37.5 25.0 1 12.5 0 30 30	1BuV/m)	3 418. Frequen	612. cy (MHz)	5	6	
Freq.	Detector Mode R	Spectrum eading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
98.870 271.530 436.430 642.070 746.830	Peak Peak Peak Peak Peak Peak	43.67 32.43 33.58 33.50 35.89	-22.39 -17.07 -12.65 -8.33 -7.93	21.28 15.36 20.92 25.18 27.96	43.50 46.00 46.00 46.00 46.00	-22.22 -30.64 -25.08 -20.82 -18.04

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35.43

-4.85

30.59

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54.00



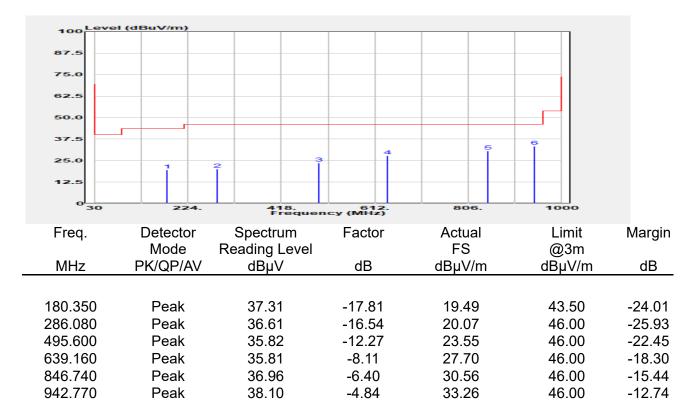
Report No.: E2/2021/30017 Page: 88 of 133

10.7.8 SANT-Monopole No.7

BLE1M

Report Number	:E2/2021/30017
Operation Mode	:BLE 1M
Test Frequency	:2442 MHz
Test Mode	:TX CH MID
EUT Pol	:E1 Plan
Ant	:NO.7 Monopole

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:23.5/60
Antenna Pol.	:Vertical
Engineer	:Jack Tseng



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Margin



Report Number Operation Mode Test Frequency Test Mode	:E2/2021/30017 :BLE 1M :2442 MHz :TX CH MID	•		:966 Chamber D :2021-07-19 :23.5/60 :Horizontal
EUT Pol	:E1 Plan	Engir	ieer	:Jack Tseng
Ant	:NO.7 Monopole			
100 Level (d	(BuV/m)			
87.5				
75.0				
62.5				
50.0				
37.5				<u>6</u> 7
25.0	1 ²	4	5	
12.5 0 30	224. 418. Freque	612. ency (MHz)	806.	1000
Freq.	Detector Spectrum Mode Reading Level	Factor	Actual FS	Limit @3m

	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
161.920	Peak	34.91	-17.03	17.88	43.50	-25.62
285.110	Peak	35.93	-16.58	19.35	46.00	-26.65
478.140	Peak	35.22	-11.73	23.49	46.00	-22.51
636.250	Peak	35.18	-8.46	26.72	46.00	-19.28
795.330	Peak	33.53	-6.61	26.92	46.00	-19.08
924.340	Peak	37.98	-5.09	32.89	46.00	-13.11
974.780	Peak	36.17	-4.38	31.79	54.00	-22.21

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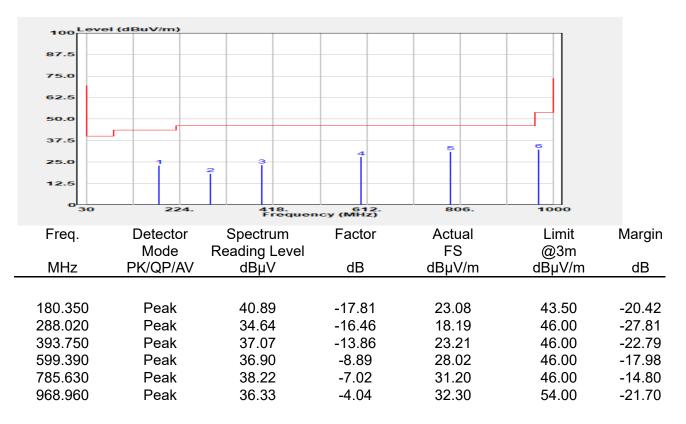


Report No.: E2/2021/30017 Page: 90 of 133

BLE2M

Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2442 MHz
Test Mode	:TX CH MID
EUT Pol	:E1 Plan
Ant	:NO.7 Monopole

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:23.5/60
Antenna Pol.	:Vertical
Engineer	:Jack Tseng



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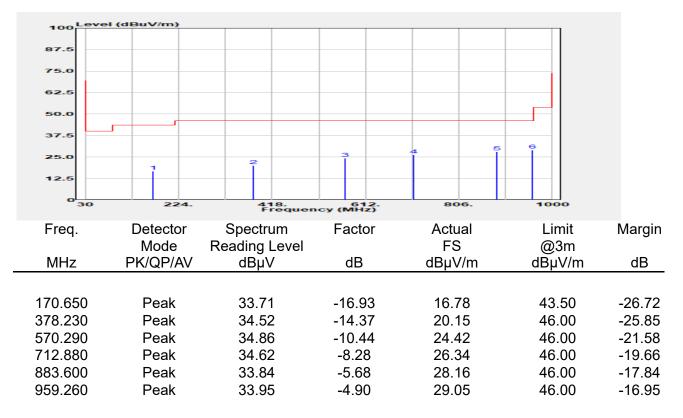
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Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2442 MHz
Test Mode	:TX CH MID
EUT Pol	:E1 Plan
Ant	:NO.7 Monopole

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:23.5/60
Antenna Pol.	:Horizontal
Engineer	:Jack Tseng



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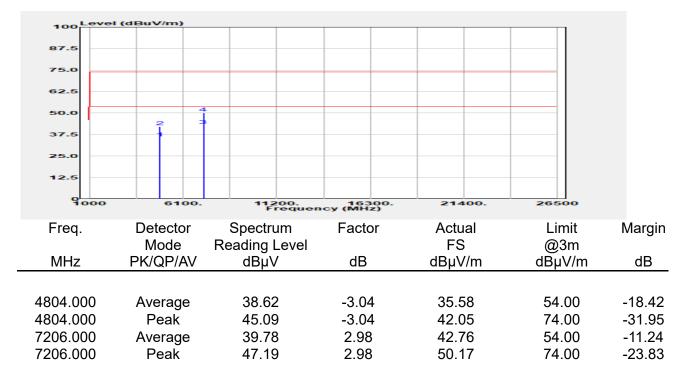


10.7.9 Radiated Spurious Emission above 1GHz

10.7.10 DANT-Dipole Ant No.5

BLE1M

Report Number	:E2/2021/30017	Test Site	:SAC D
Operation Mode	:BLE 1M	Test Date	:2021-08-03
Test Frequency	:2402 MHz	Temp./Humi.	:21.5/65
Test Mode	:TX CH LOW	Antenna Pol.	:Vertical
EUT Pol	:E1 Plan	Engineer	:Andy Wang
Note	:NO.5		



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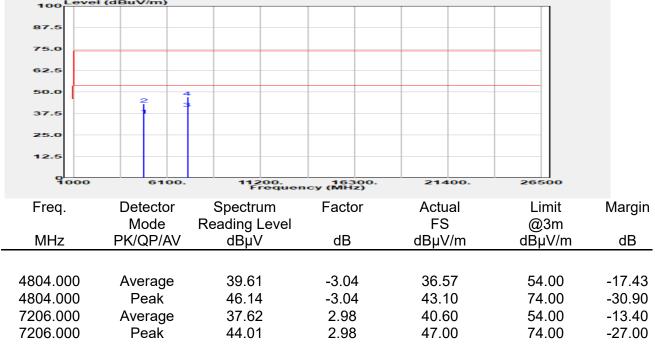
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Report Number	:E2/2021/30017	
Operation Mode	:BLE 1M	
Test Frequency	:2402 MHz	
Test Mode	:TX CH LOW	
EUT Pol	:E1 Plan	
Note	:NO.5	
Level (d	BuV/m)	
100		
87.5		

Test Site	:SAC D
Test Date	:2021-08-03
Temp./Humi.	:21.5/65
Antenna Pol.	:Horizontal
Engineer	:Andy Wang



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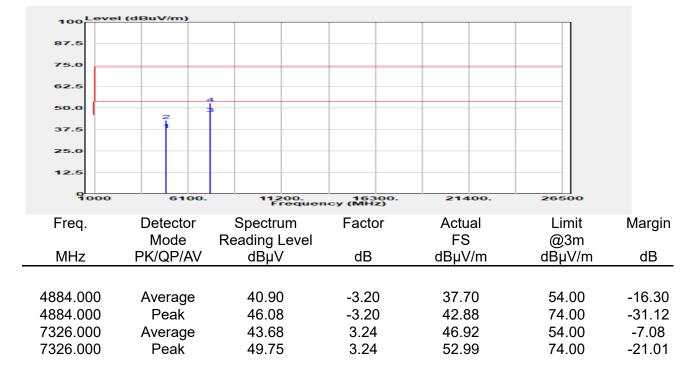
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Report Number	:E2/2021/30017
Operation Mode	:BLE 1M
Test Frequency	:2442 MHz
Test Mode	:TX CH MID
EUT Pol	:E1 Plan
Note	:NO.5

Test Site :SAC D	
Test Date :2021-08-0	3
Temp./Humi. :21.5/65	
Antenna Pol. :Vertical	
Engineer :Andy Wan	g



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:SAC D



:E2/2021/30017

Report Number

Operation Mode Test Frequency Test Mode EUT Pol Note	:BLE 1M :2442 MH :TX CH M :E1 Plan :NO.5		-	Test Date Temp./Humi. Antenna Pol. Engineer	:2021-08-03 :21.5/65 :Horizontal :Andy Wang	
87.5 75.0 62.5 50.0 37.5 25.0 12.5	dBuV/m)					
1000	6100.	11200. Frequen	16300. icy (MHz)	21400	. 26500	
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
		ασμν	чD	սերչյա	ασμν/m	uD
4884.000 4884.000 7326.000	Average Peak Average	39.56 45.58 39.27	-3.20 -3.20 3.24	36.35 42.38 42.51	54.00 74.00 54.00	-17.65 -31.62 -11.49
7326.000	Peak	45.11	3.24	48.35	74.00	-25.65

Test Site

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:SAC D



:E2/2021/30017

Report Number

•						
Operation Mode	:BLE 1M		٦	est Date	:2021-08-03	
Test Frequency	:2480 MH	Z	1	emp./Humi.	:21.5/65	
Test Mode	:TX CH H	IGH	A	Antenna Pol.	:Vertical	
EUT Pol	:E1 Plan		E	Engineer	:Andy Wang	
Note	:NO.5			0	, ,	
100 Level (d	dBuV/m)					
87.5						
75.0						
62.5						
50.0		4				
37.5	2					
25.0						
12.5						
9000	6100.	11200.	16300. cy (MHz)	21400	. 26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
Tieq.	Mode	Reading Level	1 0000	FS	@3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4960.000	Average	39.78	-2.87	36.91	54.00	-17.09
4960.000	Peak	45.38	-2.87	42.50	74.00	-31.50
7440.000	Average	44.11	3.85	47.96	54.00	-6.04
7440.000	Peak	50.15	3.85	54.00	74.00	-20.00

Test Site

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-27.12

74.00

:SAC D



:E2/2021/30017

Report Number

7440.000

Peak

•						
Operation Mode	:BLE 1M		Те	est Date	:2021-08-03	
Test Frequency	:2480 MHz	<u>.</u>	Те	emp./Humi.	:21.5/65	
Test Mode	:TX CH HI	GH	Ar	ntenna Pol.	:Horizontal	
EUT Pol	:E1 Plan		Er	ngineer	:Andy Wang	
Note	:NO.5			0	, 0	
100 Level (dBuV/m)					
87.5						
75.0						
62.5						
50.0	4	F				
37.5	2 3					
25.0						
12.5						
1000	6100.	11200. Frequen	16300. cy (MHz)	21400	. 26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
MHz	Mode PK/QP/AV	Reading Level dBµV	dB	FS dBµV/m	@3m dBµV/m	dB
		ubµv	uD	υσμν/π	ubµv/m	UD
4960.000	Average	37.26	-2.87	34.38	54.00	-19.62
4960.000	Peak	43.36	-2.87	40.49	74.00	-33.51
7440.000	Average	37.01	3.85	40.86	54.00	-13.14

Test Site

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43.03

3.85

46.88

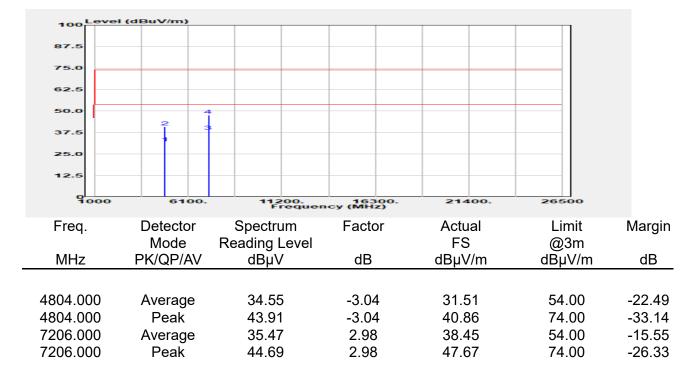


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BLE2M

Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2402 MHz
Test Mode	:TX CH LOW
EUT Pol	:E1 Plan
Note	:NO.5

Test Site	:SAC D
Test Date	:2021-08-04
Temp./Humi.	:21.7/65
Antenna Pol.	:Vertical
Engineer	:Andy Wang



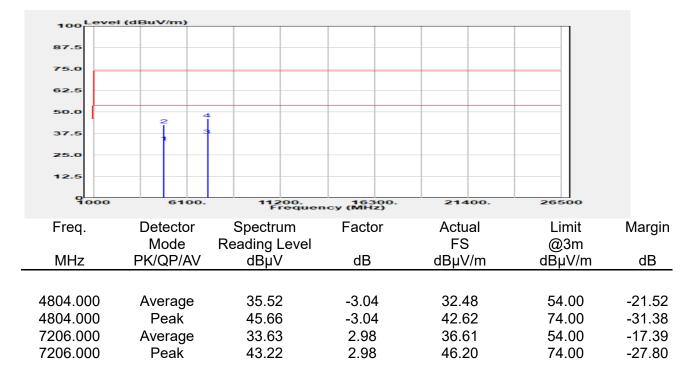
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Report Number	:E2/2021/30017
Operation Mode	:BLE 2M
Test Frequency	:2402 MHz
Test Mode	:TX CH LOW
EUT Pol	:E1 Plan
Note	:NO.5

:SAC D
:2021-08-04
:21.7/65
:Horizontal
:Andy Wang



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:SAC D

:2021-08-04 :21.7/65 :Vertical

:Andy Wang



	Report Number	:E2/2021/300	17	Tes	t Site	
Operation Mode		:BLE 2M		Test Date		
	Test Frequency	:2442 MHz		Ten	np./Humi.	
	Test Mode	:TX CH MID		Ante	enna Pol.	
	EUT Pol	:E1 Plan		Eng	gineer	
	Note	:NO.5				
		(Pu) (m)				
	100 Level (0	IBuV/m)				
	87.5					
	75.0					
	62.5					
	50.0	2 3				
	37.5					
	25.0					
	12.5					
	2000	6400	44200	46300	24.40	

1000	6100.	Frequen	16300. icy (MHz)	21400.	26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	_
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4884.000	Average	36.24	-3.20	33.04	54.00	-20.96
4884.000	Peak	46.43	-3.20	43.23	74.00	-30.77
7326.000	Average	39.88	3.24	43.12	54.00	-10.88
7326.000	Peak	49.12	3.24	52.37	74.00	-21.63

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Margin

dB

-22.14

-31.64

-16.24

-26.34

74.00

54.00

74.00

:SAC D



:E2/2021/30017

Report Number

4884.000

7326.000

7326.000

Peak

Average

Peak

1						-	
Operation Mode	:BLE 2M			Test	Date	:2021	-08-04
Test Frequency	:2442 MHz	z		Temp./Humi. : 21.7/65		/65	
Test Mode	:TX CH M	ID		Ante	enna Pol.	:Horiz	zontal
EUT Pol	:E1 Plan			Eng	ineer	:Andy	/ Wang
Note	:NO.5						
1 00001 (
100 Level (dBuV/m)		T T				
87.5							
75.0							
62.5							
50.0	2	•					
37.5	1	3					
25.0							
12.5							
9000	6100.	11200. Frequer	163 1cy (MHz	00. :)	2140	0.	26500
Freq.	Detector	Spectrum	Facto	r	Actual		Limit
MHz	Mode PK/QP/AV	Reading Level dBµV	dB		FS dBµV/n	n	@3m dBµV/m
			40				
4884.000	Average	35.06	-3.20		31.86		54.00

45.56

34.52

44.42

Test Site

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-3.20

3.24

3.24

42.36

37.76

47.66

:SAC D



:E2/2021/30017

Report Number

	:22/2021/	00011	-			
Operation Mode	:BLE 2M		Т	est Date	:2021-08-04	
Test Frequency	:2480 MH	Z	Т	emp./Humi.	: 21.7/65	
Test Mode	:TX CH H	IGH	А	ntenna Pol.	:Vertical	
EUT Pol	:E1 Plan		E	ngineer	:Andy Wang	
Note	:NO.5					
100 Level (dBuV/m)					
100						
87.5	_					
75.0						
62.5						
50.0						
37.5	2	5				
25.0						
12.5						
9000	6100.	11200. Frequen	16300. icy (MHz)	21400	. 26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4960.000	Average	35.18	-2.87	32.31	54.00	-21.69
4960.000	Average Peak	45.14	-2.87 -2.87	42.26	54.00 74.00	-21.09
7440.000	Average	39.35	-2.87	42.20	54.00	-10.80
7440.000	Peak	49.06	3.85	52.91	74.00	-21.09
			0.00	0=.01		=

Test Site

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Margin

dB

-23.49 -32.74

-17.41

-27.84

74.00

:SAC D



:E2/2021/30017

Peak

Report Number

7440.000

	1	, _ 0 _ 1/ 0			-	-	
	Operation Mode	:BLE 2M		Т	est Date	:2021-08-04	
	Test Frequency	:2480 MHz			emp./Humi.	: 21.7/65	
	Test Mode	:TX CH HI	:TX CH HIGH		Antenna Pol.	:Horizontal	
	EUT Pol	:E1 Plan		E	Engineer	:Andy Wang	
	Note	:NO.5			0	, 0	
	100 Level (dBuV/m)					
	87.5						
	75.0						
	62.5						
	50.0	4	L				
	37.5	2	3				
	25.0						
	12.5						
	9000	6100.	11200. Frequen	16300. cy (MHz)	21400.	26500	
	Freq.	Detector	Spectrum	Factor	Actual	Limit	
	•	Mode	Reading Level		FS	@3m	
	MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	
						- / 00	
	4960.000	Average	33.39	-2.87	30.51	54.00	
	4960.000	Peak	44.14 32.74	-2.87 3.85	41.26 36.59	74.00 54.00	
7440.000		Average	52.14	5.05	30.39	04.00	

Test Site

t (886-2) 2299-3279

42.31

3.85

46.16



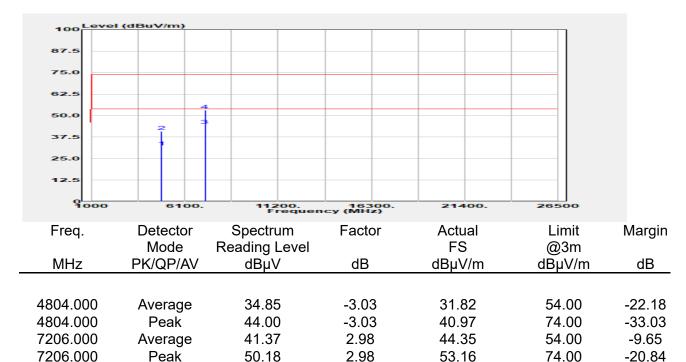
Report No.: E2/2021/30017 Page: 104 of 133

10.7.11 SANT-Dipole No.4

BLE1M

Report Number	:E2/2021/30017
Operation Mode	:BLE 1M
Test Frequency	:2402 MHz
Test Mode	:TX CH LOW
EUT Pol	:E2 Plane
Ant	:NO.4 Dipole

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:23.5/60
Antenna Pol.	:Vertical
Engineer	:Jack Tseng



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Report Number Operation Mode Test Frequency Test Mode EUT Pol Ant	:E2/2021/3 :BLE 1M :2402 MHz :TX CH LO :E2 Plane :NO.4 Dipo	W		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:966 Chamber D :2021-07-19 :23.5/60 :Horizontal :Jack Tseng	
	dBuV/m)					
100						
87.5						
75.0						
62.5						
50.0	2 4					
37.5						
25.0						
12.5						
9000	6100.	11200. Frequen	1630	0. 21400	. 26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
rieq.		Reading Level	1 actor	FS	@3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV/m	<u> </u>	dB
4804.000	Average	41.04	-3.03	38.01	54.00	-15.99
4804.000	Peak	47.27	-3.03	44.24	74.00	-29.76
7206.000	Average	38.07	2.98	41.05	54.00	-12.95
7206.000	Peak	42.68	2.98	45.66	74.00	-28.34

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Report Number Operation Mode Test Frequency Test Mode EUT Pol Ant	:E2/2021/3 :BLE 1M :2442 MHz :TX CH MI :E2 Plane :NO.4 Dipo	z D		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:966 Chamber D :2021-07-19 :23.5/60 :Vertical :Jack Tseng	
100 Level (dBuV/m)					
87.5						
75.0						
62.5						
50.0						
37.5						
25.0	1					
12.5						
9000	6100.	11200. Frequer	16300 icy (MHz)	0. 21400	. 26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
I	Mode	Reading Level		FS	@3m	5
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4884.000	Average	30.81	-3.17	27.64	54.00	-26.36
4884.000	Peak	44.46	-3.17	41.29	74.00	-32.71
7326.000	Average	31.77	3.14	34.91	54.00	-19.09
7326.000	Peak	39.84	3.14	42.98	74.00	-31.02

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Report Number Operation Mode Test Frequency Test Mode EUT Pol Ant	:E2/2021/3 :BLE 1M :2442 MHz :TX CH MI :E2 Plane :NO.4 Dipo	<u>z</u> D		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:966 Chamber D :2021-07-19 :23.5/60 :Horizontal :Jack Tseng	
100 Level (o	dBuV/m)					
87.5						
75.0						
62.5						
50.0						
37.5	2 4					
25.0	1 3					
12.5						
9000	6100.	11200. Frequen	1630 icy (MHz)	0. 21400	. 26500	
Freq.	Detector	Spectrum	Factor		Limit	Margin
	Mode	Reading Level		FS	@3m	15
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
	_					
4884.000	Average	30.56	-3.17	27.39	54.00	-26.61
4884.000	Peak	43.51	-3.17	40.34	74.00	-33.66
7326.000	Average	27.88	3.14	31.02	54.00	-22.98
7326.000	Peak	39.97	3.14	43.11	74.00	-30.89

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Report Number Operation Mode Test Frequency Test Mode EUT Pol Ant	:BLE 1M :2480 MHz :TX CH HIGH :E2 Plane			Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:966 Chamber D :2021-07-19 :23.5/60 :Vertical :Jack Tseng	
AII	:NO.4 Dip					
Level (iBuV/m)					
100 Level (c						
87.5						
75.0						
62.5						
50.0						
37.5	2					
25.0						
12.5						
9000						
	6100.	11200. Freque				
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
N 41 I.—	Mode	Reading Level		FS	@3m	٩D
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
1000.000	A	00.47	0.00	00.00	54.00	47.70
4960.000 4960.000	Average Peak	39.17	-2.89	36.28	54.00 74.00	-17.72
4960.000 7440.000		45.34 45.33	-2.89 3.65	42.44 48.98	74.00 54.00	-31.56 -5.02
7440.000	Average Peak	45.33 50.84	3.65 3.65	40.90 54.49	54.00 74.00	-5.02 -19.51
10.000	1 Cur	00.04	0.00	07.70	77.00	10.01

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Report Number Operation Mode Test Frequency Test Mode EUT Pol Ant		z GH		Tes Ten Ant	t Site t Date np./Hum enna Po gineer	:2 i. :2 I. :⊦	966 Chamber 2021-07-19 23.5/60 Horizontal lack Tseng	. D
100 Level	(dBuV/m)							
87.5								
75.0								
62.5								
50.0		4						
37.5	2	8						
25.0								
12.5								
9000	6100.	11200. Frequer	1630 ICY (MHz))	214	00.	26500	
Freq.	Detector	Spectrum	Facto	r	Actu		Limit	Margin
	Mode	Reading Level			FS		@3m	
MHz	PK/QP/AV	dBµV	dB		dBµV	/m	dBµV/n	n dB
4960.000	Average	42.18	-2.89		39.2	-	54.00	
4960.000	Peak	46.95	-2.89		44.0	-	74.00	
7440.000	Average Peak	38.50	3.65		42.1	-	54.00	
7440.000	Peak	43.01	3.65		46.6	0	74.00	-27.34

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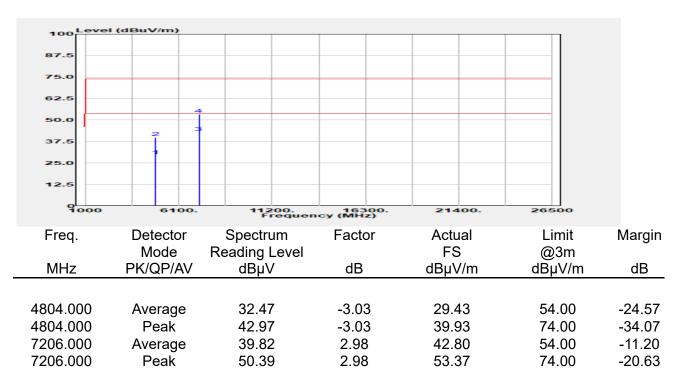


Report No.: E2/2021/30017 Page: 110 of 133

BLE2M

Report Number	:E2/2021/30017					
Operation Mode	:BLE 2M					
Test Frequency	:2402 MHz					
Test Mode	:TX CH LOW					
EUT Pol	:E2 Plane					
Ant	:NO.4 Dipole					

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:23.5/60
Antenna Pol.	:Vertical
Engineer	:Jack Tseng



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Report Number Operation Mode Test Frequency Test Mode EUT Pol Ant	:E2/2021/30 :BLE 2M :2402 MHz :TX CH LO :E2 Plane :NO.4 Dipo	W		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:966 Chamber D :2021-07-19 :23.5/60 :Horizontal :Jack Tseng)
100 Level (dBuV/m)					
87.5						
75.0						
62.5						
50.0						
37.5						
25.0						
12.5						
9000	6100.			0. 21400		
1000	6100.	11200. Frequen				
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
MHz	Mode PK/QP/AV	Reading Level dBµV	dB	FS dBµV/m	@3m dBµV/m	dB
		αDμν	UD	dDpv/m	dbµv/m	<u>ub</u>
4804.000	Average	37.95	-3.03	34.92	54.00	-19.08
4804.000	Peak	47.07	-3.03	44.04	74.00	-29.96
7206.000	Average	31.64	2.98	34.62	54.00	-19.38
7206.000	Peak	41.19	2.98	44.17	74.00	-29.83

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Report Number Operation Mode Test Frequency Test Mode EUT Pol Ant	:E2/2021/30 :BLE 2M :2442 MHz :TX CH MID :E2 Plane :NO.4 Dipole			Tes Ten Ante	t Site t Date np./Humi. enna Pol. jineer	:966 Char :2021-07- :23.5/60 :Vertical :Jack Tse	19	
/ uit		5						
Level (d	BuV/m)							
100								
87.5								
75.0								
62.5	4						-	
50.0	3							
37.5	2							
25.0								
12.5								
9000	6100.	11200. Frequen	1630 icy (MHz)		21400	. 26	500	
Freq.	Detector	Spectrum	Factor	-	Actual	L	imit	Margin
	Mode F	Reading Level			FS	Q)3m	0
MHz F	PK/QP/AV	dBµV	dB		dBµV/m	dB	μV/m	dB
	_					_		
4884.000	Average	29.07	-3.17		25.89		4.00	-28.11
4884.000 7326.000	Peak Average	41.09 40.97	-3.17 3.14		37.92 44.11		4.00 4.00	-36.08 -9.89
7326.000	Peak	52.79	3.14		55.92		4.00	-18.08

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Report Number Operation Mode Test Frequency Test Mode EUT Pol Ant	:E2/2021/3 :BLE 2M :2442 MHz :TX CH MII :E2 Plane :NO.4 Dipo	D		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:966 Chamber D :2021-07-19 :23.5/60 :Horizontal :Jack Tseng	
Level (dBuV/m)					
100						
87.5						
75.0						
62.5						
50.0	2 4					
37.5	+ + *					
25.0						
12.5						
9000	6100.	11200. Frequen	1630 icy (MHz)	0. 21400	. 26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	0
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4884.000	Average	37.67	-3.17	34.49	54.00	-19.51
4884.000	Peak	46.24	-3.17	43.07	74.00	-30.93
7326.000 7326.000	Average Peak	34.55 42.30	3.14 3.14	37.69 45.43	54.00 74.00	-16.31 -28.57
1320.000	reak	42.30	3.14	40.43	74.00	-20.37

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Report Number Operation Mode Test Frequency Test Mode EUT Pol Ant	:E2/2021/3 :BLE 2M :2480 MHz :TX CH HIC :E2 Plane :NO.4 Dipo	GH		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:966 Chamber D :2021-07-19 :23.5/60 :Vertical :Jack Tseng	
100 Level (o	dBuV/m)					
87.5						
75.0						
62.5	4					
50.0	2 3					
37.5	i i					
25.0						
12.5						
9000	6100.	11200. Frequen	16300 cy (MHz)	0. 21400	. 26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
1000.000					- /	~~
4960.000	Average	33.33	-2.89	30.43	54.00	-23.57
4960.000	Peak	41.74	-2.89	38.84	74.00	-35.16
7440.000	Average	39.38	3.65	43.03	54.00	-10.97
7440.000	Peak	49.97	3.65	53.62	74.00	-20.38

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Operation Mode:BLE 2MTest Date:2021-07-19Test Frequency:2480 MHzTemp./Humi.:23.5/60Test Mode:TX CH HIGHAntenna Pol.:HorizontalEUT Pol:E2 PlaneEngineer:Jack TsengAnt:NO.4 Dipole:Horizontal:Horizontal	
Level (dBuV/m)	
87.5	
75.0	
62.5	
50.0 2 4	
37.5	
25.0	
12.5	
0 1000 6100. 11200. 16300. 21400. 26500 Frequency (MHz)	
Freq. Detector Spectrum Factor Actual Limit Mar	gin
Mode Reading Level FS @3m	_
MHz PK/QP/AV dBµV dB dBµV/m dBµV/m dI	3
4960.000 Average 32.61 -2.89 29.72 54.00 -24	20
4960.000Average32.61-2.8929.7254.00-244960.000Peak46.98-2.8944.0974.00-29	-
7440.000 Average 30.23 3.65 33.88 54.00 -20	
7440.000 Peak 41.99 3.65 45.64 74.00 -28	

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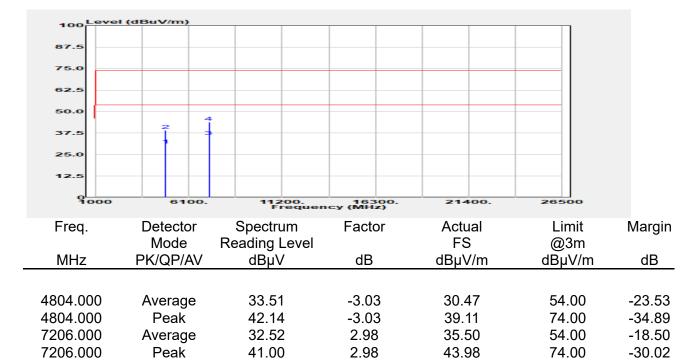
Report No.: E2/2021/30017 Page: 116 of 133

10.7.12 SANT-Monopole No.7

BLE1M

Report Number	:E2/2021/30017
Operation Mode	:BLE 1M
Test Frequency	:2402 MHz
Test Mode	:TX CH LOW
EUT Pol	:E1 Plane
Ant	:NO.7 Monopole

Test Site	:966 Chamber D
Test Date	:2021-07-19
Temp./Humi.	:23.5/60
Antenna Pol.	:Vertical
Engineer	:Jack Tseng



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(株子方分 就可) に扱き等本 (注力列 執入(本)(転) 見 () 同可に(株)可注 (転回の人) 今 株 (若 大金 本 な) 音 (転子 小) 本 () 可 () 特 (表 (に 転 の) 音 (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に 転 の) ま (に ಮ 0) ま (に) (に) ま (に)) ま ((に)) ま ((に)) ま ((に)) ま (((u))) ま ((u)) ま ((u)) = ((u)) = ((u)



:E2/2021/30017

Report Number

Operation Mode Test Frequency Test Mode EUT Pol Ant	:BLE 1M :2402 MHz :TX CH LC :E1 Plane :NO.7 Mor	W		Test Date Temp./Humi. Antenna Pol. Engineer	:2021-07-19 :23.5/60 :Horizontal :Jack Tseng	
100 Level (dBuV/m)					
87.5						
75.0						
62.5						
50.0						
37.5	2					
25.0						
12.5						
9000	6100.		46300	. 21400	26500	
1000	6100.	11200. Frequen	16300 cy (MHz)	. 21400	20500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level	٩D	FS	@3m	٩D
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4804.000	Average	33.16	-3.03	30.13	54.00	-23.87
4804.000	Peak	41.88	-3.03	38.85	74.00	-35.15
7206.000	Average	32.72	2.98	35.70	54.00	-18.30

Test Site

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40.88

2.98

43.86

74.00

-30.14

Peak

7206.000



:E2/2021/30017

Report Number

	, _0_ 1,0					
Operation Mode	:BLE 1M		Te	est Date	:2021-07-19	
Test Frequency	:2442 MHz		Te	emp./Humi.	:23.5/60	
Test Mode	:TX CH MI	D	Ai	ntenna Pol.	:Vertical	
EUT Pol	:E1 Plane		E	ngineer	:Jack Tseng	
Ant	:NO.7 Mon	opole		0	Ũ	
100 Level (dBuV/m)					
87.5						
75.0						
62.5						
50.0						
37.5	2 3					
25.0						
12.5						
1000	6100.	11200. Frequen	16300. cy (MHz)	21400	. 26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
MHz	Mode PK/QP/AV	Reading Level dBµV	dB	FS dBµV/m	@3m dBµV/m	dB
		dDµV	UD	αDμν/m	ασμνητ	uD
4884.000	Average	37.56	-3.17	34.39	54.00	-19.61
4884.000	Peak	40.21	-3.17	37.03	74.00	-36.97
7326.000	Average	32.96	3.14	36.10	54.00	-17.90
7326.000	Peak	36.62	3.14	39.76	74.00	-34.24

Test Site

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Report Number Operation Mode Test Frequency Test Mode EUT Pol Ant	:E2/2021/3 :BLE 1M :2442 MHz :TX CH MI :E1 Plane :NO.7 Mor	<u>z</u> D		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:966 Chamber D :2021-07-19 :23.5/60 :Horizontal :Jack Tseng	
100 Level (dBuV/m)					
87.5						
75.0						
62.5						
50.0						
37.5	2 4					
25.0						
12.5						
9000	6100.	11200. Frequen	1630 cy (MHz)	0. 21400	. 26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4884.000	Average	31.27	-3.17	28.10	54.00	-25.90
4884.000	Peak	41.20	-3.17	38.03	74.00	-35.97
7326.000	Average	30.26	3.14	33.40	54.00	-20.60
7326.000	Peak	37.96	3.14	41.10	74.00	-32.90

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Report Number Operation Mode Test Frequency Test Mode EUT Pol	:E2/2021/30 :BLE 1M :2480 MHz :TX CH HIG :E1 Plane			Test Terr Ante	t Site Date p./Humi. enna Pol. ineer	:20: :23: :Ve	6 Charr 21-07-1 .5/60 rtical ck Tsen	9	
Ant	:NO.7 Mono	nole		0		-		5	
	.NO.7 MOR	opole							
100 Level (BuV/m)							-	
87.5									
75.0									
62.5									
50.0									
37.5	2 4								
25.0									
12.5									
9000	6100.	11200. Frequen	1630 cy (MHz)	о.	2140	0.	265	00	
Freq.	Detector	Spectrum	Factor		Actua			mit	Margin
MHz		Reading Level	dB		FS	~		3m	dB
	PK/QP/AV	dBµV	uВ		dBµV/r	n	авр	ıV/m	uв
4960.000	Average	36.75	-2.89		33.86		54	.00	-20.14
4960.000	Peak	40.47	-2.89		37.57		-	.00	-36.43
7440.000	Average	32.86	3.65		36.51		-	.00	-17.49
7440.000	Peak	35.17	3.65		38.81		74	.00	-35.19

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Report Number Operation Mode Test Frequency Test Mode EUT Pol	:E2/2021/3 :BLE 1M :2480 MHz :TX CH HIC :E1 Plane			Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:966 Chamber D :2021-07-19 :23.5/60 :Horizontal :Jack Tseng	
Ant	:NO.7 Mon	opole				
		•				
100 Level (dBuV/m)					
87.5						
75.0						
62.5						
50.0	4					
37.5	1					
25.0						
12.5						
9000	6100.	11200. Frequen	16300 cy (MHz)	. 21400	26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
		Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
	_					.
4960.000	Average	35.42	-2.89	32.53	54.00	-21.47
4960.000	Peak	39.43	-2.89	36.54	74.00	-37.46
7440.000 7440.000	Average Peak	32.96 36.08	3.65 3.65	36.61 39.73	54.00 74.00	-17.39 -34.27
7440.000	reak	30.00	3.05	39.13	74.00	-34.27

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BLE2M

Report Number	:E2/2021/3	30017		Test Site	:966 Chamber D)
Operation Mode	:BLE 2M			Test Date	:2021-07-19	
Test Frequency	:2402 MHz	<u>Z</u>		Temp./Humi.	:23.5/60	
Test Mode	:TX CH LC) W		Antenna Pol.	:Vertical	
EUT Pol	:E1 Plane			Engineer	:Jack Tseng	
Ant	:NO.7 Mor	nopole				
100 Level ((dBuV/m)					
87.5						
75.0						
62.5						
50.0	4					
37.5	2					
25.0						
12.5						
1000	6100.	11200. Frequer	1630 icy (MHz)	0. 21400	26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
MHz	Mode PK/QP/AV	Reading Level dBµV	dB	FS dBµV/m	@3m n dBµV/m	dB
		•		•	ľ	
4804.000	Average	34.58	-3.03	31.55	54.00	-22.45
4804.000	Peak	42.64	-3.03	39.61	74.00	-34.39
7206.000 7206.000	Average Peak	31.54 39.50	2.98 2.98	34.52 42.48	54.00 74.00	-19.48 -31.52

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:E2/2021/30017

Report Number

7206.000

Peak

1						
Operation Mode	:BLE 2M		Г	lest Date	:2021-07-19	
Test Frequency	:2402 MHz	<u>.</u>	Т	ſemp./Humi.	:23.5/60	
Test Mode	:TX CH LC	W	A	Antenna Pol.	:Horizontal	
EUT Pol	:E1 Plane		E	Engineer	:Jack Tseng	
Ant	:NO.7 Mon	opole		-	-	
100 Level (dBuV/m)			1 1		
87.5						
75.0						
62.5						
50.0	4					
37.5	2 3					
25.0						
12.5						
9000	6100.	11200. Frequen	16300. cy (MHz)	21400.	26500	
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV/m	<u> </u>	dB
4804.000	Average	33.58	-3.03	30.55	54.00	-23.45
4804.000 7206.000	Peak Average	42.95 29.48	-3.03 2.98	39.92 32.46	74.00 54.00	-34.08 -21.54
1200.000	Average	23.40	2.30	52.40	54.00	-21.04

Test Site

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39.88

2.98

42.86

www.sgs.com.tw

74.00

-31.14



:E2/2021/30017

Report Number

Report Rumbol	. 2/2021/00		10			
Operation Mode	:BLE 2M		Te	st Date	:2021-07-19	
Test Frequency	:2442 MHz		Те	mp./Humi.	:23.5/60	
Test Mode	:TX CH MID)	Ar	itenna Pol.	:Vertical	
EUT Pol	:E1 Plane		Er	igineer	:Jack Tseng	
Ant	:NO.7 Mond	pole				
100 Level (dBuV/m)					
87.5						
75.0						
62.5						
50.0	4					
37.5	2					
25.0						
12.5						
9000	6100.	11200. Frequen	16300. су (MHz)	21400	26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
MHz	Mode I PK/QP/AV	Reading Level dBµV	dB	FS dBµV/m	@3m dBµV/m	dB
		GDµV	40	abµ v/m	30µ ////	40
4884.000	Average	33.66	-3.17	30.49	54.00	-23.51
4884.000	Peak	41.21	-3.17	38.03	74.00	-35.97
7326.000 7326.000	Average Peak	30.75 39.62	3.14 3.14	33.89 42.76	54.00 74.00	-20.11 -31.24
1 320.000	I Car	00.0Z	0.14	42.70	74.00	-51.24

Test Site

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Report Number Operation Mode Test Frequency Test Mode EUT Pol Ant	:E2/2021/30 :BLE 2M :2442 MHz :TX CH MID :E1 Plane :NO.7 Mond)		Test Site Test Da Temp./F Antenna Enginee	te Iumi. a Pol.	:966 Chaml :2021-07-19 :23.5/60 :Horizontal :Jack Tseng	9	
,		,poio						
Level (dBuV/m)							
100								
87.5								
75.0								
62.5								
50.0								
37.5	2 7							
25.0	3							
12.5								
9000	6100.	11200. Frequen	1630 cy (MHz)	o. :	21400.	2650	20	
Freq.	Detector	Spectrum	Factor		Actual	Lin	nit Marg	ain
1109.		Reading Level	1 40101	,	FS	@3		9
MHz	PK/QP/AV	dBµV	dB	dl	3μV/m	dBµ'		3
4884.000	Average	31.54	-3.17		28.37	54.		
4884.000	Peak	40.90	-3.17		37.73	74.		
7326.000	Average	23.58	3.14		26.72	54.		-
7326.000	Peak	38.16	3.14	4	11.30	74.	00 -32.	70

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:E2/2021/30017

Report Number

Report Number	. 2/2021/	50017	IV IV			
Operation Mode	:BLE 2M		Te	est Date	:2021-07-19	
Test Frequency	:2480 MHz	Z	Te	emp./Humi.	:23.5/60	
Test Mode	:TX CH HI	GH	А	ntenna Pol.	:Vertical	
EUT Pol	:E1 Plane		E	ngineer	:Jack Tseng	
Ant	:NO.7 Mor	nopole				
100 Level (c	iBuV/m)			1	1	
87.5						
75.0						
62.5						
50.0	4					
37.5	2	3.				
25.0						
12.5						
9000	6100.	11200. Frequer	16300. icy (MHz)	21400	. 26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
MHz	Mode PK/QP/AV	Reading Level dBµV	dB	FS dBµV/m	@3m dBµV/m	dB
		dDµV	<u></u>	dDµv/m	dDµ V/m	dD
4960.000	Average	31.06	-2.89	28.17	54.00	-25.83
4960.000	Peak	40.47	-2.89	37.57	74.00	-36.43
7440.000	Average	28.97	3.65	32.62	54.00	-21.38
7440.000	Peak	38.47	3.65	42.11	74.00	-31.89

Test Site

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Report Number	:E2/2021/3	30017			t Site t Date		6 Cham		
Operation Mode		_					21-07-1	9	
Test Frequency	:2480 MHz	2		Ien	np./Humi.	:23	5/60		
Test Mode	:TX CH HI	GH		Ant	enna Pol.	:Ho	orizontal		
EUT Pol	:E1 Plane			Eng	jineer	:Ja	ck Tsen	g	
Ant	:NO.7 Mor	nopole							
100 Level (dBuV/m)							1	
87.5									
75.0									
62.5									
50.0									
37.5	2	3							
25.0									
12.5									
9000	6100.	11200. Frequer	1630 1cy (MHz)	ю.	2140	D.	265	00	
Freq.	Detector	Spectrum	Factor		Actual		Li	mit	Margin
	Mode	Reading Level			FS			3m	
MHz	PK/QP/AV	dBµV	dB		dBµV/n	n	dBh	ıV/m	dB
4960.000	Average	32.55	-2.89		29.66		54	.00	-24.34
4960.000	Peak	40.73	-2.89		37.84		-	.00	-36.16
7440.000	Average	27.98	3.65		31.63			.00	-22.37
7440.000	Peak	38.68	3.65		42.33		74	.00	-31.67

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11 POWER SPECTRAL DENSITY

11.1 Standard Applicable:

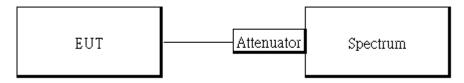
The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

11.2 Measurement Equipment Used:

	Conducted	Emission Test	t Site: Conducted A		
EQUIPMENT TYPE	MFR/BRAND	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	KEYSIGHT	N9010B	MY59071573	06/26/2020	06/25/2021
Spectrum Analyzer	KEYSIGHT	N9010B	MY59071570	06/01/2021	05/31/2022
DC Power Supply	Agilent	E3640A	MY53130054	09/07/2020	09/06/2021
Attenuator	Marvelous	MVE2213-10	RF09	11/19/2020	11/18/2021
DC Block	PASTERNACK	PE8210	RF151	11/19/2020	11/18/2021
Test Software	SGS Taiwan	Radio Test Software	Ver.21	N.C.R	N.C.R

Note: N.C.R refers to Not Calibrated Required

11.3 Test Set-up:



11.4 Measurement Procedure:

- 1. Set analyzer center frequency to DTS channel center frequency.
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance.
- 3. Set the span to 1.5 times the DTS channel bandwidth.
- 4. Set the RBW = 3 kHz. & the VBW = 10 kHz
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level.

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11.5 Measurement Result:

11.5.1 **DANT-Dipole Ant No.5**

BLE mode

Frequency (MHz)	RF Power Den- sity (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2402	-9.690	8	PASS
2442	-9.740	8	PASS
2480	-9.930	8	PASS

NOTE: cable loss as 10.8dB that offsets in the spectrum

BLE 2M mode

Frequency (MHz)	RF Power Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2402	-12.570	8	PASS
2442	-12.690	8	PASS
2480	-12.810	8	PASS

NOTE: cable loss as 10.8dB that offsets in the spectrum

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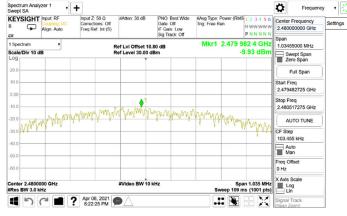
Power Density BLE 1M LowCH00-2402 Spectrum Analyzer 1 Swept SA Frequency Ö · + KEYSIGHT Input: RF #Atten: 30 dB Input Z: 50 Ω Corrections: Off Freq Ref. Int (S) PNO: Best Wide Gate: Off #Avg Type: Pr Trig: Free Rut Center Frequency 2.402000000 GHz Settings Ģ Alian: Aut PNNNN Span 1.03 1 Spectr 2.401 982 3 GHz 0000 MHz Ref Lvi Offset 10.80 dE Ref Level 30.00 dBm Scale/Div 10 dB -9.69 dBr Swept Span Zero Span Full Span Start Freq 2.401480700 GHz Stop Freq 2.402519300 GHz moundant AUTO TUNE CF Step 103.860 kHz Auto Man Freq Offset 0 Hz Span 1.039 MHz Sweep 110 ms (1001 pts) Center 2.402000 #Res BW 3.0 kHz Apr 08, 2021 8:18:02 PM

Power Density_BLE_1M_MidCH20-2442 rum Analyzer 1 Spect Swep Ö Frequency v • + KEYSIGHT Input: RF PNO: Best Wide Gate: Off #Avg Type: Pov Trig: Free Run Center Frequency 2.442000000 GHz Settings ections: Off Ref: Int (S) Align: Auto PNNNN 982 4 GH 1.03650000 MHz Ref Lvi Offset 10.80 dB Ref Level 30.00 dBm Scale/Div 10 de -9.74 dB Swept Span Zero Span Full Span Start Freq 2.441481750 GHz Stop Freq 2.442518250 GHz ٥ Wind and Multimer Manual marker AUTO TUNE CF Step 103.650 kHz Auto Man Freq Offset 0 Hz Span 1.037 MHz 109 ms (1001 pts) BW 10 kH Center 2.4420000 #Res BW 3.0 kHz

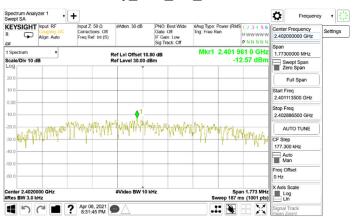
Power Density BLE 1M HighCH39-2480

.# 💥 🗄 🔀

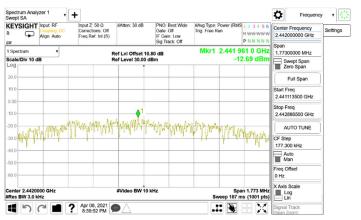
4 ら C 目 ? Apr 08, 2021 8:26:20 PM



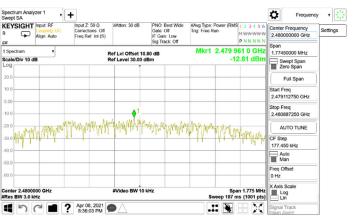
Power Density BLE 2M LowCH00-2402



Power Density_BLE_2M_MidCH20-2442



Power Density_BLE_2M_HighCH39-2480



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11.5.2 SANT-Dipole No.4 & SANT-Monopole No.7

BLE mode

Frequency (MHz)	RF Power Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2402	-10.940	8	PASS
2442	-10.930	8	PASS
2480	-11.400	8	PASS

NOTE: cable loss as 10.8dB that offsets in the spectrum

BLE 2M mode

Frequency (MHz)	RF Power Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2402	-13.750	8	PASS
2442	-13.950	8	PASS
2480	-14.320	8	PASS

NOTE: cable loss as 10.8dB that offsets in the spectrum

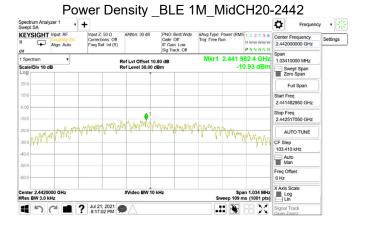
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Swept SA KEYSIGHT Input: RF R Coupling: DG Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Int (S)	#Atten: 30 dB	PNO: Best Wide Gate: Off IF Gain: Low Sig Track. Off	#Avg Type: P Trig: Free Ru	ower (RMS 1 2 3 4 5 6 M WWWWW P N N N N N	2.402000000 GHz	Setti
1 Spectrum Scale/Div 10 dB		f Lvi Offset 10. f Level 30.00 d		Mkr1 3	2.401 982 3 GHz -10.94 dBm		
20.0						Full Span	
10.0						Start Freq 2.401480850 GHz	
-10.0	1 0	1				Stop Freq 2.402519150 GHz	
20.0 30.0 MM WWW	Manh hunnin	Madauath	www.www.	Marile	Withmann	AUTO TUNE	
					. WeihAM	CF Step 103.830 kHz	
-40.0						Auto Man	
-60.0						Freq Offset 0 Hz	
		#Video BW 10 I			Span 1.038 MHz	X Axis Scale	
Center 2.4020000 GHz #Res BW 3.0 kHz		FAIGEO BAA 101		Sw	eep 110 ms (1001 pts)		1



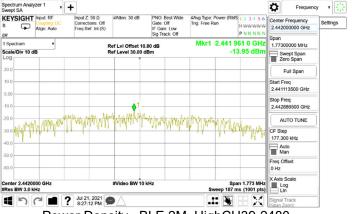
Power Density_ BLE 1M_HighCH39-2480

spectrum Analyzer 1					0		
wept SA	+					Frequence Frequence	y •
EYSIGHT Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Int (S)	4Atten: 30 dB	PNO: Best Wide Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: P Trig: Free Ru	ower (RMS 1 2 3 4 5 6 n M WW WW W P N N N N N	Center Frequency 2.48000000 GHz	Settings
Spectrum v	Re	f Lvi Offset 10.8	0 dB	Mkr1	2.479 982 4 GHz	Span 1.03455000 MHz	
cale/Div 10 dB		f Level 30.00 dE			-11.40 dBm	Swept Span Zero Span	
0.0						Full Span	Ĩ
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1. The second					- W WYYA	CF Step 103.455 kHz	
0.0						Auto Man	
50.0						Freq Offset 0 Hz	
enter 2.4800000 GHz Res BW 3.0 kHz	i	≠Video BW 10 kl	Hz	Sw	Span 1.035 MHz sep 109 ms (1001 pts)		
	? Jul 21, 2021 8:13:35 PM	\square				Signal Track (Span Zoom)	1

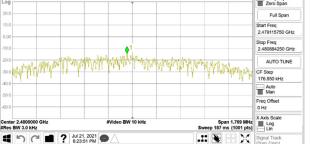
Power Density_ BLE 2M_LowCH00-2402

Coupling: DC C	hput Z: 50 Ω #Atten: 30 dB Corrections: Off req Ref: Int (S)	PNO: Best Wide Gate: Off IF Gain: Low Sig Track: Off		1 2 3 4 5 6 M WW WW W P N N N N N	Center Frequency 2.402000000 GHz Span	Setting
ectrum v	Ref Lvi Offset 1 Ref Level 30.00		Mkr1 2.401 9 -13	61 0 GHz .75 dBm	1.77300000 MHz	
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·	an and the state of the state o	^e mining makeri	MAMMAN	homen	AUTO TUNE	
olden historic	1		14 4.141	TYP	CF Step 177.300 kHz	
0					Auto Man	
0					Freq Offset 0 Hz	
ter 2.4020000 GHz s BW 3.0 kHz	#Video BW 1	0 kHz	Spa Sweep 187 m	n 1.773 MHz	X Axis Scale	

Power Density_ BLE 2M_MidCH20-2442







Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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12 ANTENNA REQUIREMENT

12.1 Standard Applicable:

For intentional device, according to §15.203, an intentional radiator shall be designed to ensure that no antenna other than furnished by the responsible party shall be used with the device.

12.2 Antenna Connected Construction:

The antenna is designed as permanently attached and no consideration of replacement. Please see EUT photo for details.

~ End of Report ~

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