



Spectru	ım	٦								₽
Ref Leve Att Count 10		40 (		0.77 dB 👄 94.8 μs 👄			Auto FFT			
●1Pk Vie	V									
20 dBm—							M1[1] M2[1]		2.479	16.45 dBm 35200 GHz 3.95 dBm 97900 GHz
10 dBm—						M2	1	Ĩ	2.479	97900 GHz
0 dBm—				m	A	And	m.			
-10 dBm-	-D1	-16.05	i0 dBm	~~~~			my	Ľ3		
-20 dBm-			ſ					$\mathbb{R}$		
-30 dBm-	m,	M	mon					h	mon	im
-50 dBm-	_									
-60 dBm-	_									
05.0.10										
CF 2.48 Marker	GHZ				1	.001 pts			Spai	n 3.0 MHz
No Typ	e Ref	Trc	Stimulus	Respo	inse	Function		Function	Result	
1 N:		1	2.479352 GH		5 dBm	. anotion			nosun	
2 N2		1	2.479979 GH		5 dBm					
3 D3	N1	1	1.26 MH	z O	.40 dB					
						) M	easuring		4/0	3.05.2022

Fig. 66 20dB Bandwidth (8DPSK, CH78)



# A.6 Time of Occupancy (Dwell Time)

## Method of Measurement: See ANSI C63.10-clause 7.8.4.

#### Measurement Limit:

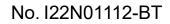
Standard	Limit (s)		
FCC 47 CFR Part 15.247(a)	< 0.4		

#### Measurement Results:

Mode	Channel	Packet		Width ns)	Total (Nເ	•	Result (s)	Conclusion
GFSK	39	DH5	Fig.67	2.86	Fig.68	100	0.29	Р
π/4 DQPSK	39	2-DH5	Fig.69	2.87	Fig.70	120	0.34	Р
8DPSK	39	3-DH5	Fig.71	2.87	Fig.72	130	0.37	Р

See below for test graphs.

Conclusion: Pass





Spectrum 🔆				
Ref Level 5.00 dBm Offset 10.57 dB	🖷 RBW 1 MHz			
🛛 Att 15 dB 👄 SWT 10 ms	👄 VBW 3 MHz			
SGL Count 1/1 TRG: VID				
●1Pk Clrw				
0 dBm	the diversity of the second	M1[1]		-11.18 dBm
		DOLAT		250 ns — —4.51 dB
		D2[1] — — — –		2.86161 ms
-10 dBm		1	1	2.001011113
-20 dBm				
-30 dBm				
-40 dBm				
-50 dBm				
Bearder de Jahren Herrichten in der	a de una	والبليل المحمد والمرابط والمرابع	and a state of the state of the	S COLORADO
a. In the fact of the second	an the second	at department of the state Department of the state of the		al that when when the second
a day that World along satisfies of	الربابية بالربس	di di de de la Martenadat	ankalah dalaman ne	وليراويان والتربي
a a contrat a data da calleda	A DATA	allanın dala	Se de la chasaille	and a little bird of all
-70 dBm				
-80 dBm				-
-90 dBm				-
CF 2.441 GHz	8000 pts		Í	1.0 ms/
	5500 pts			22.05.2022



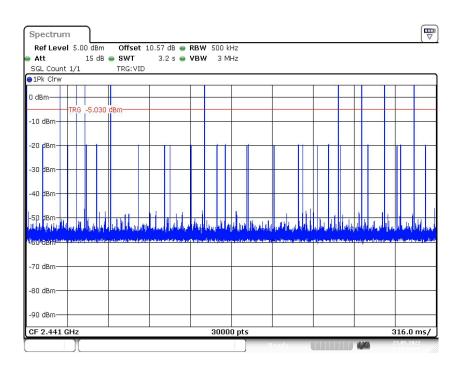
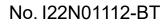


Fig. 68 Number of Burst in Observation Period (Dwell Time) (GFSK, CH39)





Spectrum 🔆				
	: 10.57 dB 😑 RBW 1 MH			
Att 15 dB 👄 SWT	10 ms 👄 VBW 3 MH	z		
SGL Count 1/1 TRG:VI	D			
●1Pk Clrw		1		
0 dBm	An a labor of a fight of the labor of the	M1[1]		-9.43 dBn
	las de state del 1 del	Pot al		1.50 µs
	dan ku ani ai la dika dika aika ku a	- —D2[1] — —		— — — —6.27 dE 2.86536 m
-10 dBm			1 1	2.00330 m
-20 dBm				
-30 dBm				
-40 dBm				
F0 d0m				
		a li selakenadi		timate density
a first at p		a hand he what a had been been a	hy a philippe and	The second s
Contraction of the second s		an ta al cite anne le alma hi	the element handlah	hi tutu ana si khua
		a na katala na kata na	an italik a mutun lon tu.	. It is a little of the second state of the second s
-70 dBm		• IL H + F + L	1 2.5	
-80 dBm			<u>↓</u>	
-90 dBm				
CF 2.441 GHz	800	0 pts		1.0 ms/
		Ready		23.05.2022



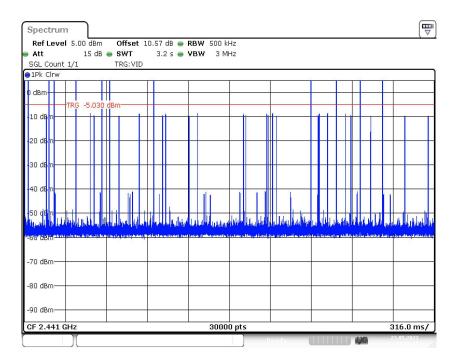


Fig. 70 Number of Burst in Observation Period (Dwell Time) ( $\pi$ /4 DQPSK, CH39)



# No. I22N01112-BT

Spectrum 💥					
RefLevel 5.00 dBm Of Att 15 dB = SV	fset 10.57 dB 🖷 RBW 1 MH				
	<b>VT</b> 10 ms <b>● VBW</b> 3 MH G:VID	12			
1Pk Clrw	5. 910				
0 dBm Ma hybrid	an territely a territely of territely a territely and	M1[1]			LO dBn 4.00 μ
	and an end of the second of a second seco	2 — — - <b>D2[1]</b> — —			2.51 dE 786 ms
-20 dBm					
-30 dBm					
-40 dBm					
-50 dBm					المالانية
		(a throw (the All of Cost Marticlase	United to be a second		d. R. La
-70 dBm			William Complete		, Halaniy
-80 dBm					
-90 dBm					
CF 2.441 GHz	800	0 pts		1.	0 ms/
		Ready		<b>1/4</b> 23.05.	2022



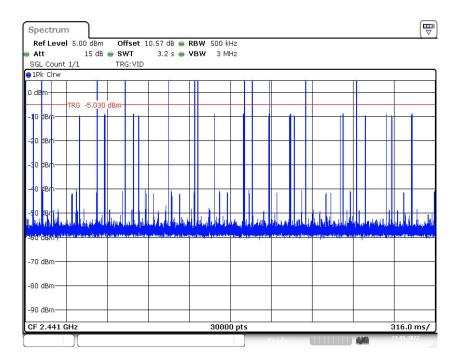


Fig. 72 Number of Burst in Observation Period (Dwell Time) (8DPSK, CH39)



# A.7 Number of Hopping Channels

## Method of Measurement: See ANSI C63.10-clause 7.8.3.

#### Measurement Limit:

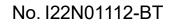
Standard	Limit (Num)
FCC 47 CFR Part 15.247(a)	At least 15 non-overlapping channels

#### **Measurement Results:**

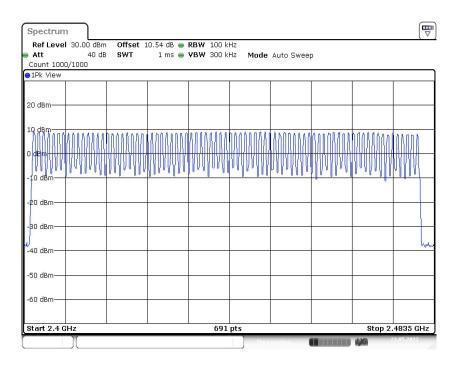
Mode	Packet	Number of Hopping Channels	Test results (Num)	Conclusion
GFSK	DH5	Fig.73	79	Р
π/4 DQPSK	2-DH5	Fig.74	79	Р
8DPSK	3-DH5	Fig.75	79	Р

See below for test graphs.

**Conclusion: Pass** 









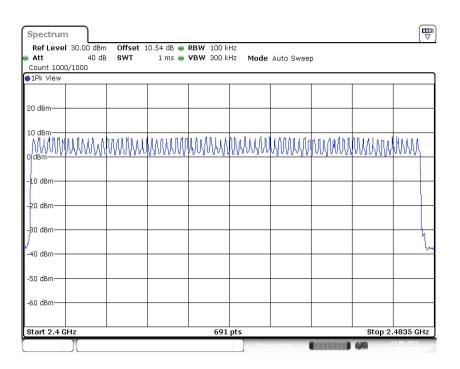


Fig. 74 Number of Hopping Channels ( $\pi$ /4 DQPSK, Hopping)



# No. I22N01112-BT

pectrum Ref Level	30.00 dBm	Offset	.0.54 dB 👄	<b>RBW</b> 100 k	Hz				7
Att	40 dB	SWT	1 ms 👄	<b>VBW</b> 300 k	Hz Mode	Auto Swee	5		
Count 1000/	/1000								
1Pk View									
0 dBm									
o ubiii									
0. dBm									
ANDANAAAA	1110111	nna ann an	A DAABADAA	<b>LUNAVAU</b>	MMMW	APRILIA	100000	adallada	16008
dBm	MANNAG	MANAN	MANNAMANA	տողղորվե	nannan	NAAAAAAAA	ANDONAR	and and and	nanna
abiii									
10 dBm									
o abiii									
20 dBm									
o abiii									
30 dBm									
									4
10 dBm									<u> </u>
50 dBm									
50 dBm									
tart 2.4 GF	17			691	nts			Stop 2	4835 GHz

Fig. 75 Number of Hopping Channels (8DPSK, Hopping)



# A.8 Carrier Frequency Separation

## Method of Measurement: See ANSI C63.10-clause 7.8.2.

#### Measurement Limit:

Standard	Limit
	By a minimum of 25 kHz or two-thirds of the 20 dB
FCC 47 CFR Part 15.247(a)	bandwidth of the hopping channel, whichever is
	greater

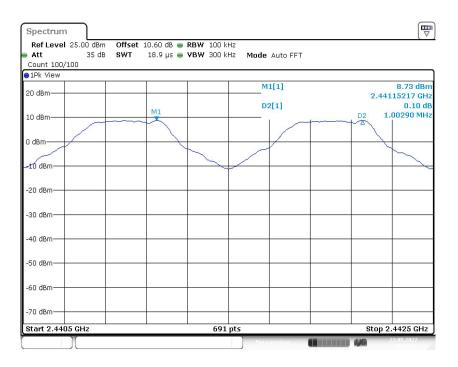
#### Measurement Results:

Mode	Channel	Packet	Separation of hopping channels	Test result (kHz)	Conclusion
GFSK	39	DH5	Fig.76	1003.00	Р
π/4 DQPSK	39	2-DH5	Fig.77	1006.00	Р
8DPSK	39	3-DH5	Fig.78	1003.00	Р

#### See below for test graphs.

Conclusion: Pass







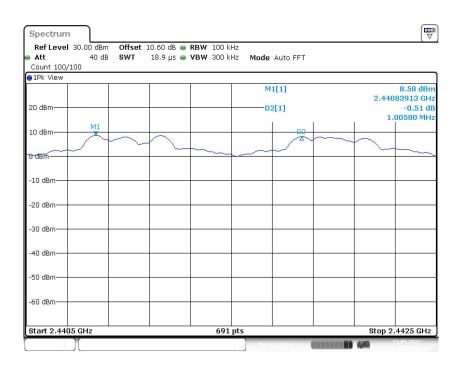


Fig. 77 Carrier Frequency Separation (π/4 DQPSK, CH39)



# No. I22N01112-BT

Att 40 dB	Offset 10.60 dB ● RBW 100   SWT 18.9 µs ● VBW 300		
Count 100/100 IPk View			
		M1[1]	7.52 dBi
20 dBm		D2[1]	2.44114638 GF 0.34 d
		80.0	1.00290 MH
10 dBm	M1		D2
0-dBm	Y Ym		
-10 dBm			
-20 dBm			
-30 dBm			
-40 dBm			
-50 dBm			
-60 dBm			
Start 2.4405 GHz	691	Lpts	Stop 2.4425 GHz

Fig. 78 Carrier Frequency Separation (8DPSK, CH39)



## A.9 AC Power line Conducted Emission

### Method of Measurement: See ANSI C63.10-clause 6.2

#### **Test Condition:**

Voltage (V)	Frequency (Hz)		
120	60		

#### Measurement Result and limit:

#### BT-AE2, AE3

Frequency range	Quasi-peak	Average-peak	Result (dBμV)		Conclusion	
(MHz)	Limit (dBµV)	Limit (dBµV)	Traffic	ldle	Conclusion	
0.15 to 0.5	66 to 56	56 to 46				
0.5 to 5	56	46	Fig.79	Fig.80	Р	
5 to 30	60	50				
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15						
MHz to 0.5 MHz.						

Note: The measurement results include the L1 and N measurements.

See below for test graphs. Conclusion: Pass



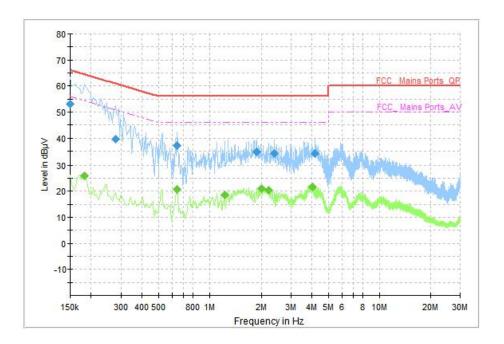


Fig. 79 AC Power line Conducted Emission (Traffic)

Frequency	Quasi Peak	Limit	Margin	Line	Filter	Corr.
(MHz)	(dBµV)	(dBµV)	(dB)			(dB)
0.150000	53.18	66.00	12.82	N	ON	10
0.278000	39.50	60.88	21.37	N	ON	10
0.646000	37.05	56.00	18.95	N	ON	10
1.874000	34.89	56.00	21.11	L1	ON	10
2.398000	34.28	56.00	21.72	N	ON	10
4.150000	34.02	56.00	21.98	L1	ON	10

## Measurement Results: Quasi Peak

## Measurement Results: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.182000	25.75	54.39	28.65	L1	ON	10
0.646000	20.56	46.00	25.44	N	ON	10
1.230000	18.49	46.00	27.51	N	ON	10
2.002000	20.89	46.00	25.11	N	ON	10
2.222000	20.45	46.00	25.55	L1	ON	10
4.042000	21.65	46.00	24.35	N	ON	10



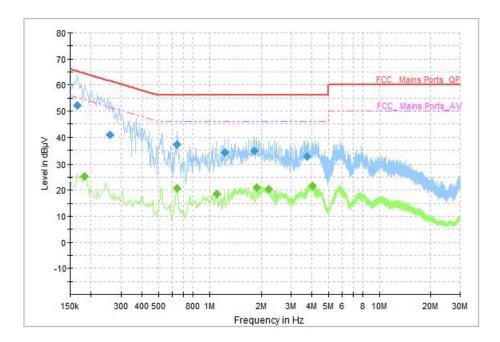


Fig. 80 AC Power line Conducted Emission (Idle)

Frequency (MHz)	Quasi Peak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.166000	52.29	65.16	12.87	N	ON	10
0.258000	40.84	61.50	20.66	N	ON	10
0.646000	37.13	56.00	18.87	N	ON	10
1.230000	34.09	56.00	21.91	L1	ON	10
1.814000	34.88	56.00	21.12	N	ON	10
3.750000	32.69	56.00	23.31	N	ON	10

## Measurement Results: Quasi Peak

## Measurement Results: Average

Frequency	Average	Limit	Margin	Line	Filter	Corr.
(MHz)	(dBµV)	(dBµV)	(dB)			(dB)
0.182000	25.38	54.39	29.02	N	ON	10
0.642000	20.56	46.00	25.44	N	ON	10
1.106000	18.67	46.00	27.33	L1	ON	10
1.882000	20.84	46.00	25.16	L1	ON	10
2.218000	20.35	46.00	25.65	N	ON	10
4.038000	21.46	46.00	24.54	L1	ON	10

## \*\*\*END OF REPORT\*\*\*