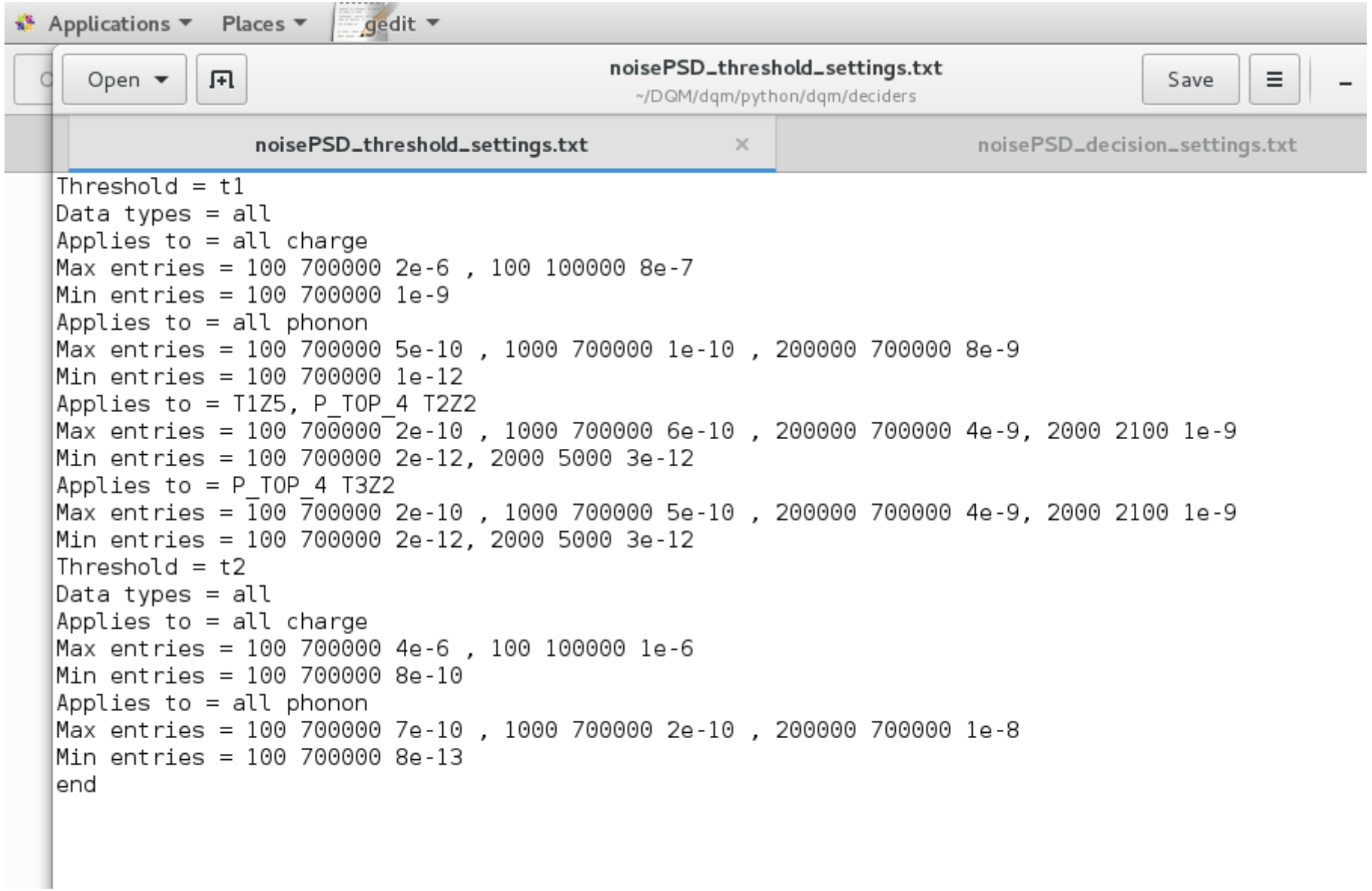
# Weekly Meeting

November 28 2017

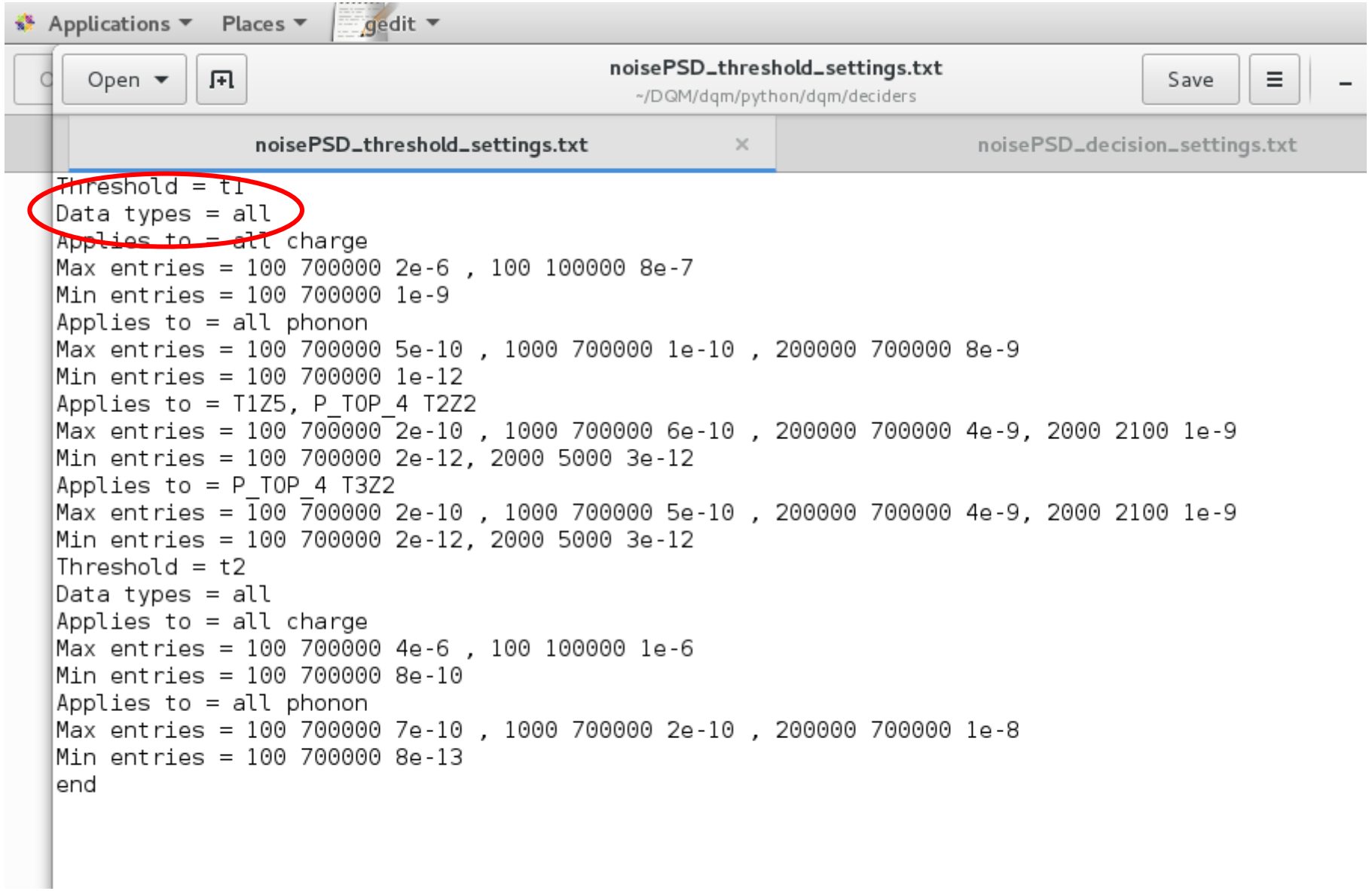
# DQM

- Been working on implementing the noisePSD decider into the DAQ DQM.
- Recall – configurable txt file to put in threshold settings.
- Ben is also working on a web interface to input settings. I will work with him on testing it out with noisePSD

# DQM


Applications
Places
gedit
Open
noisePSD_threshold_settings.txt
~/DQM/dqm/python/dqm/deciders
Save
noisePSD_threshold_settings.txt
noisePSD_decision_settings.txt
Threshold = t1
Data types = all
Applies to = all charge
Max entries = 100 700000 2e-6 , 100 100000 8e-7
Min entries = 100 700000 1e-9
Applies to = all phonon
Max entries = 100 700000 5e-10 , 1000 700000 1e-10 , 200000 700000 8e-9
Min entries = 100 700000 1e-12
Applies to = T1Z5, P_TOP_4 T2Z2
Max entries = 100 700000 2e-10 , 1000 700000 6e-10 , 200000 700000 4e-9, 2000 2100 1e-9
Min entries = 100 700000 2e-12, 2000 5000 3e-12
Applies to = P_TOP_4 T3Z2
Max entries = 100 700000 2e-10 , 1000 700000 5e-10 , 200000 700000 4e-9, 2000 2100 1e-9
Min entries = 100 700000 2e-12, 2000 5000 3e-12
Threshold = t2
Data types = all
Applies to = all charge
Max entries = 100 700000 4e-6 , 100 100000 1e-6
Min entries = 100 700000 8e-10
Applies to = all phonon
Max entries = 100 700000 7e-10 , 1000 700000 2e-10 , 200000 700000 1e-8
Min entries = 100 700000 8e-13
end

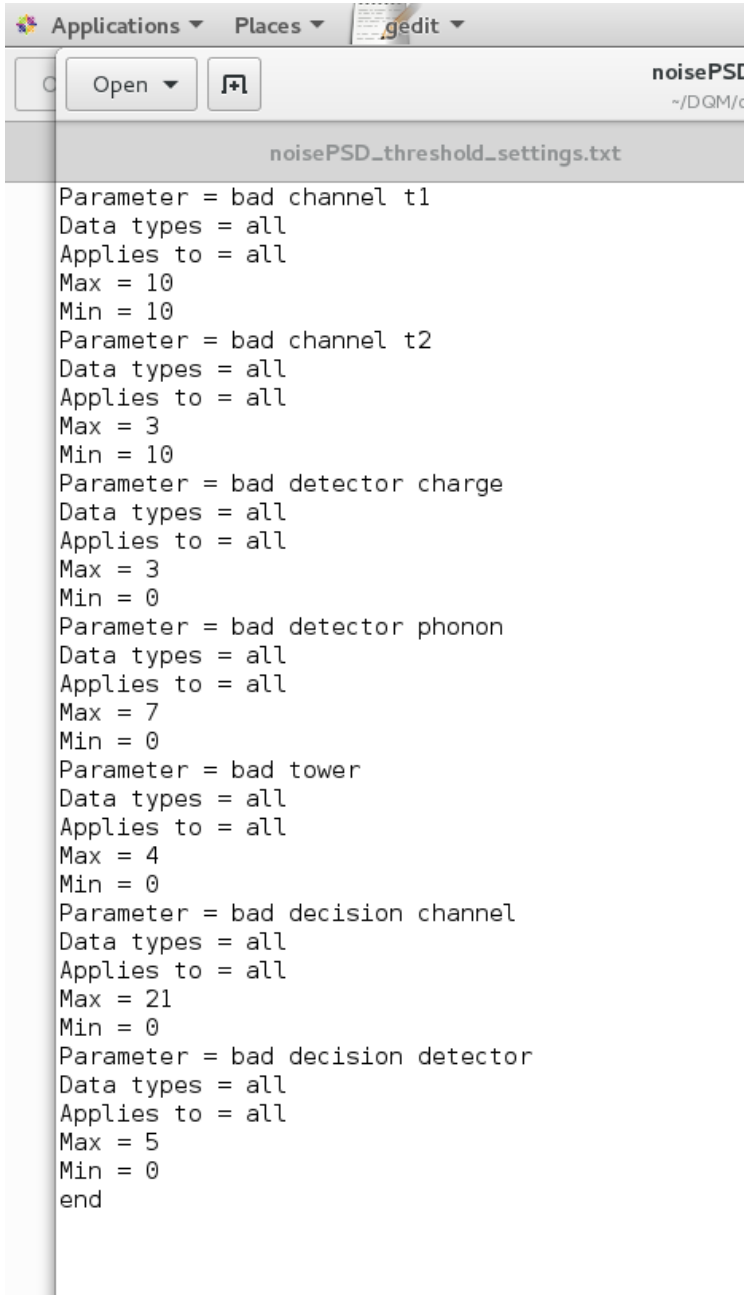
# DQM


Applications
Places
gedit
Open
noisePSD_threshold_settings.txt
~/DQM/dqm/python/dqm/deciders
Save
noisePSD_threshold_settings.txt
noisePSD_decision_settings.txt
Threshold = t1
Data types = all
Applies to = all charge
Max entries = 100 700000 2e-6 , 100 100000 8e-7
Min entries = 100 700000 1e-9
Applies to = all phonon
Max entries = 100 700000 5e-10 , 1000 700000 1e-10 , 200000 700000 8e-9
Min entries = 100 700000 1e-12
Applies to = T1Z5, P_TOP_4 T2Z2
Max entries = 100 700000 2e-10 , 1000 700000 6e-10 , 200000 700000 4e-9, 2000 2100 1e-9
Min entries = 100 700000 2e-12, 2000 5000 3e-12
Applies to = P_TOP_4 T3Z2
Max entries = 100 700000 2e-10 , 1000 700000 5e-10 , 200000 700000 4e-9, 2000 2100 1e-9
Min entries = 100 700000 2e-12, 2000 5000 3e-12
Threshold = t2
Data types = all
Applies to = all charge
Max entries = 100 700000 4e-6 , 100 100000 1e-6
Min entries = 100 700000 8e-10
Applies to = all phonon
Max entries = 100 700000 7e-10 , 1000 700000 2e-10 , 200000 700000 1e-8
Min entries = 100 700000 8e-13
end

# DQM

- Also added in a decisions settings file – which are configurable settings about what is deemed to be a “bad channel”, “bad detector”, “bad decision”
- It works the same way as threshold settings, using the same algorithms to sort the “applied to” part

# DQM


Applications
Places
gedit
Open
noisePSD
~/DQM/
noisePSD_threshold_settings.txt
Parameter = bad channel t1
Data types = all
Applies to = all
Max = 10
Min = 10
Parameter = bad channel t2
Data types = all
Applies to = all
Max = 3
Min = 10
Parameter = bad detector charge
Data types = all
Applies to = all
Max = 3
Min = 0
Parameter = bad detector phonon
Data types = all
Applies to = all
Max = 7
Min = 0
Parameter = bad tower
Data types = all
Applies to = all
Max = 4
Min = 0
Parameter = bad decision channel
Data types = all
Applies to = all
Max = 21
Min = 0
Parameter = bad decision detector
Data types = all
Applies to = all
Max = 5
Min = 0
end

# DQM

- I’m having a few issues with loading the settings into the database.
- Different data types: There should only be one set of entries for each data type (it doesn’t make sense for there to be settings for Ba calibration, and another set of settings for Ba calibration…again?)
- I can imagine scenarios where this is problematic…the code grabs the first entry that matches the specified data type
- E.g. Add settings that apply to Ba calibration Cs calibration (1).
  - Decide need separate settings for Cs calibration, so add it (2)
  - If I retrieve the settings for Cs calibration, it will give me (1), not (2)
  - Ideally, when I add Cs calibration, it will remove Cs calibration if it exists
- The code does not ensure that there is only one entry class per data type!

# DQM

- There is a similar issues with child and parent elements. If I add an entry to a specific channel (1), then decide there should only be one entry for the whole detector (2), when I retrieve the entry to that channel, it will return (1), not (2)

- The algorithms to avoid such problems are a bit cumbersome.
- My solution (for now): remove all entries and add from scratch
- Problem: when I retrieve the settings object, it get a copy, not the actual object. So when I remove all the entries, it only removes from the copy

# DQM

- When I upload_settings_to_database, there seems to be a problem with uploading (it doesn’t remove entries that I removed from the copy)
- There is a difference between the settings when from when I read in the settings file, compared to when I retrieve it again and read it

```
Initialized threshold settings
Decision settings file found! Comparing with last decision settings file...
Decision settings to do not require updating.
Parameters:
  Parameter ID: 51
    Parameter Name: t1
    Entries:
      Entry ID: None
        Applies to data types: all
        Settings for detector elements:
          Element ID: None
            Applies to: Channel ID 1, name Q_TOP_OUTER, in detector T1Z1 / Channel ID 2, name Q_TOP_INNER, in detector T1Z1 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z1 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z1 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z2 / Channel ID 2, name Q_TOP_INNER, in detector T1Z2 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z2 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z2 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z3 / Channel ID 2, name Q_TOP_INNER, in detector T1Z3 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z3 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z3 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z4 / Channel ID 2, name Q_TOP_INNER, in detector T1Z4 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z4 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z4 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z6 / Channel ID 2, name Q_TOP_INNER, in detector T1Z6 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z6 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z6 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z1 / Channel ID 2, name Q_TOP_INNER, in detector T2Z1 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z1 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T2Z1 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z2 / Channel ID 2, name Q_TOP_INNER, in detector T2Z2 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z2 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T2Z2 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z3 / Channel ID 2, name Q_TOP_INNER, in detector T2Z3 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z3 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T2Z3 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z4 / Channel ID 2, name Q_TOP_INNER, in detector T2Z4 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z4 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T2Z4 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z5 / Channel ID 2, name Q_TOP_INNER, in detector T2Z5 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z5 / Channel ID 10, name Q_BOTTOM_IN
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NER, in detector T2Z6 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z1 / Channel ID 2, name Q_TOP_INNER, in detector T3Z1 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z1 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T3Z1 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z2 / Channel ID 2, name Q_TOP_INNER, in detector T3Z2 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z2 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T3Z2 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z3 / Channel ID 2, name Q_TOP_INNER, in detector T3Z3 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z3 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T3Z3 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z4 / Channel ID 2, name Q_TOP_INNER, in detector T3Z4 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z4 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T3Z4 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z5 / Channel ID 2, name Q_TOP_INNER, in detector T3Z5 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z5 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T3Z5 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z6 / Channel ID 2, name Q_TOP_INNER, in detector T3Z6 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z6 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T3Z6 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z1 / Channel ID 2, name Q_TOP_INNER, in detector T4Z1 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z1 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z1 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z2 / Channel ID 2, name Q_TOP_INNER, in detector T4Z2 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z2 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z2 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z3 / Channel ID 2, name Q_TOP_INNER, in detector T4Z3 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z3 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z3 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z4 / Channel ID 2, name Q_TOP_INNER, in detector T4Z4 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z4 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z4 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z5 / Channel ID 2, name Q_TOP_INNER, in detector T4Z5 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z5 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z5 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z6 / Channel ID 2, name Q_TOP_INNER, in detector T4Z6 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z6 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z6
            Minimum:    None
            Maximum:    None
            JSON:       {'max': [[100.0, 700000.0, 2e-06], [100.0, 100000.0, 8e-07]], 'min': [[100.0, 700000.0, 1e-09]]}
          Element ID: None
            Applies to: Channel ID 3, name P_TOP_1, in detector T1Z1 / Channel ID 4, name P_TOP_2, in detector T1Z1 / Channel ID 5, name P_TOP_3, in detector T1Z1 / Channel ID 6, name P_TOP_4, in detector T1Z1 /
 Channel ID 7, name P_TOP_5, in detector T1Z1 / Channel ID 8, name P_TOP_6, in detector T1Z1 / Channel ID 11, name P_BOTTOM_1, in detector T1Z1 / Channel ID 12, name P_BOTTOM_2, in detector T1Z1 / Channel ID 13,
 name P_BOTTOM_3, in detector T1Z1 / Channel ID 14, name P_BOTTOM_4, in detector T1Z1 / Channel ID 15, name P_BOTTOM_5, in detector T1Z1 / Channel ID 16, name P_BOTTOM_6, in detector T1Z1 / Channel ID 3, name P_
TOP_1, in detector T1Z2 / Channel ID 4, name P_TOP_2, in detector T1Z2 / Channel ID 5, name P_TOP_3, in detector T1Z2 / Channel ID 6, name P_TOP_4, in detector T1Z2 / Channel ID 7, name P_TOP_5, in detector T1Z2
 / Channel ID 8, name P_TOP_6, in detector T1Z2 / Channel ID 11, name P_BOTTOM_1, in detector T1Z2 / Channel ID 12, name P_BOTTOM_2, in detector T1Z2 / Channel ID 13, name P_BOTTOM_3, in detector T1Z2 / Channel
ID 14, name P_BOTTOM_4, in detector T1Z2 / Channel ID 15, name P_BOTTOM_5, in detector T1Z2 / Channel ID 16, name P_BOTTOM_6, in detector T1Z2 / Channel ID 3, name P_TOP_1, in detector T1Z3 / Channel ID 4, name
P_TOP_2, in detector T1Z3 / Channel ID 5, name P_TOP_3, in detector T1Z3 / Channel ID 6, name P_TOP_4, in detector T1Z3 / Channel ID 7, name P_TOP_5, in detector T1Z3 / Channel ID 8, name P_TOP_6, in detector T1
Z3 / Channel ID 11, name P_BOTTOM_1, in detector T1Z3 / Channel ID 12, name P_BOTTOM_2, in detector T1Z3 / Channel ID 13, name P_BOTTOM_3, in detector T1Z3 / Channel ID 14, name P_BOTTOM_4, in detector T1Z3 / Ch
annel ID 15, name P_BOTTOM_5, in detector T1Z3 / Channel ID 16, name P_BOTTOM_6, in detector T1Z3 / Channel ID 3, name P_TOP_1, in detector T1Z4 / Channel ID 4, name P_TOP_2, in detector T1Z4 / Channel ID 5, nam
e P_TOP_3, in detector T1Z4 / Channel ID 6, name P_TOP_4, in detector T1Z4 / Channel ID 7, name P_TOP_5, in detector T1Z4 / Channel ID 8, name P_TOP_6, in detector T1Z4 / Channel ID 11, name P_BOTTOM_1, in detec
tor T1Z4 / Channel ID 12, name P_BOTTOM_2, in detector T1Z4 / Channel ID 13, name P_BOTTOM_3, in detector T1Z4 / Channel ID 14, name P_BOTTOM_4, in detector T1Z4 / Channel ID 15, name P_BOTTOM_5, in detector T1Z
4 / Channel ID 16, name P_BOTTOM_6, in detector T1Z4 / Channel ID 3, name P_TOP_1, in detector T1Z6 / Channel ID 4, name P_TOP_2, in detector T1Z6 / Channel ID 5, name P_TOP_3, in detector T1Z6 / Channel ID 6, n
ame P_TOP_4, in detector T1Z6 / Channel ID 7, name P_TOP_5, in detector T1Z6 / Channel ID 8, name P_TOP_6, in detector T1Z6 / Channel ID 11, name P_BOTTOM_1, in detector T1Z6 / Channel ID 12, name P_BOTTOM_2, in
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nel ID 12, name P_BOTTOM_2, in detector T4Z4 / Channel ID 13, name P_BOTTOM_3, in detector T4Z4 / Channel ID 14, name P_BOTTOM_4, in detector T4Z4 / Channel ID 15, name P_BOTTOM_5, in detector T4Z4 / Channel ID
16, name P_BOTTOM_6, in detector T4Z4 / Channel ID 3, name P_TOP_1, in detector T4Z5 / Channel ID 4, name P_TOP_2, in detector T4Z5 / Channel ID 5, name P_TOP_3, in detector T4Z5 / Channel ID 6, name P_TOP_4, in
 detector T4Z5 / Channel ID 7, name P_TOP_5, in detector T4Z5 / Channel ID 8, name P_TOP_6, in detector T4Z5 / Channel ID 11, name P_BOTTOM_1, in detector T4Z5 / Channel ID 12, name P_BOTTOM_2, in detector T4Z5
/ Channel ID 13, name P_BOTTOM_3, in detector T4Z5 / Channel ID 14, name P_BOTTOM_4, in detector T4Z5 / Channel ID 15, name P_BOTTOM_5, in detector T4Z5 / Channel ID 16, name P_BOTTOM_6, in detector T4Z5 / Chann
el ID 3, name P_TOP_1, in detector T4Z6 / Channel ID 4, name P_TOP_2, in detector T4Z6 / Channel ID 5, name P_TOP_3, in detector T4Z6 / Channel ID 6, name P_TOP_4, in detector T4Z6 / Channel ID 7, name P_TOP_5,
in detector T4Z6 / Channel ID 8, name P_TOP_6, in detector T4Z6 / Channel ID 11, name P_BOTTOM_1, in detector T4Z6 / Channel ID 12, name P_BOTTOM_2, in detector T4Z6 / Channel ID 13, name P_BOTTOM_3, in detector
 T4Z6 / Channel ID 14, name P_BOTTOM_4, in detector T4Z6 / Channel ID 15, name P_BOTTOM_5, in detector T4Z6 / Channel ID 16, name P_BOTTOM_6, in detector T4Z6
          Minimum:    None
          Maximum:    None
          JSON:       {'max': [[100.0, 700000.0, 5e-10], [1000.0, 700000.0, 1e-10], [200000.0, 700000.0, 8e-09]], 'min': [[100.0, 700000.0, 1e-12]]}
        Element ID: None
          Applies to: Detector ID 5, name T1Z5 / Channel ID 6, name P_TOP_4, in detector T2Z2
          Minimum:    None
          Maximum:    None
          JSON:       {'max': [[100.0, 700000.0, 2e-10], [1000.0, 700000.0, 6e-10], [200000.0, 700000.0, 4e-09], [2000.0, 2100.0, 1e-09]], 'min': [[100.0, 700000.0, 2e-12], [2000.0, 5000.0, 3e-12]]}
        Element ID: None
          Applies to: Channel ID 6, name P_TOP_4, in detector T3Z2
          Minimum:    None
          Maximum:    None
          JSON:       {'max': [[100.0, 700000.0, 2e-10], [1000.0, 700000.0, 5e-10], [200000.0, 700000.0, 4e-09], [2000.0, 2100.0, 1e-09]], 'min': [[100.0, 700000.0, 2e-12], [2000.0, 5000.0, 3e-12]]}
  Parameter ID: 52
    Parameter Name: t2
    Entries:
      Entry ID: None
        Applies to data types: all
        Settings for detector elements:
          Element ID: None
            Applies to: Channel ID 1, name Q_TOP_OUTER, in detector T1Z1 / Channel ID 2, name Q_TOP_INNER, in detector T1Z1 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z1 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z1 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z2 / Channel ID 2, name Q_TOP_INNER, in detector T1Z2 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z2 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z2 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z3 / Channel ID 2, name Q_TOP_INNER, in detector T1Z3 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z3 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z3 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z4 / Channel ID 2, name Q_TOP_INNER, in detector T1Z4 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z4 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z4 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z5 / Channel ID 2, name Q_TOP_INNER, in detector T1Z5 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z5 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z5 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z6 / Channel ID 2, name Q_TOP_INNER, in detector T1Z6 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z6 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z6 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z1 / Channel ID 2, name Q_TOP_INNER, in detector T2Z1 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z1 / Channel ID 10, name Q_BOTTOM_IN
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NER, in detector T2Z3 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z4 / Channel ID 2, name Q_TOP_INNER, in detector T2Z4 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z4 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T2Z4 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z5 / Channel ID 2, name Q_TOP_INNER, in detector T2Z5 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z5 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T2Z5 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z6 / Channel ID 2, name Q_TOP_INNER, in detector T2Z6 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z6 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T2Z6 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z1 / Channel ID 2, name Q_TOP_INNER, in detector T3Z1 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z1 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T3Z1 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z2 / Channel ID 2, name Q_TOP_INNER, in detector T3Z2 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z2 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T3Z2 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z3 / Channel ID 2, name Q_TOP_INNER, in detector T3Z3 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z3 / Channel ID 10, name Q_BOTTOM_IN
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NER, in detector T3Z4 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z5 / Channel ID 2, name Q_TOP_INNER, in detector T3Z5 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z5 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T3Z5 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z6 / Channel ID 2, name Q_TOP_INNER, in detector T3Z6 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z6 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T3Z6 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z1 / Channel ID 2, name Q_TOP_INNER, in detector T4Z1 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z1 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z1 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z2 / Channel ID 2, name Q_TOP_INNER, in detector T4Z2 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z2 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z2 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z3 / Channel ID 2, name Q_TOP_INNER, in detector T4Z3 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z3 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z3 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z4 / Channel ID 2, name Q_TOP_INNER, in detector T4Z4 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z4 / Channel ID 10, name Q_BOTTOM_IN
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NER, in detector T4Z5 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z6 / Channel ID 2, name Q_TOP_INNER, in detector T4Z6 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z6 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z6
```

```
 ID 16, name P_BOTTOM_6, in detector T4Z5 / Channel ID 3, name P_TOP_1, in detector T4Z6 / Channel ID 4, name P_TOP_2, in detector T4Z6 / Channel ID 5, name P_TOP_3, in detector T4Z6 / Channel ID 6, name P_TOP_4
, in detector T4Z6 / Channel ID 7, name P_TOP_5, in detector T4Z6 / Channel ID 8, name P_TOP_6, in detector T4Z6 / Channel ID 11, name P_BOTTOM_1, in detector T4Z6 / Channel ID 12, name P_BOTTOM_2, in detector T
4Z6 / Channel ID 13, name P_BOTTOM_3, in detector T4Z6 / Channel ID 14, name P_BOTTOM_4, in detector T4Z6 / Channel ID 15, name P_BOTTOM_5, in detector T4Z6 / Channel ID 16, name P_BOTTOM_6, in detector T4Z6
          Minimum:    None
          Maximum:    None
          JSON:       {'max': [[100.0, 700000.0, 7e-10], [1000.0, 700000.0, 2e-10], [200000.0, 700000.0, 1e-08]], 'min': [[100.0, 700000.0, 8e-13]]}
 Parameter ID: 55
   Parameter Name: bad channel t1
   Entries:
     Entry ID: 24
       Applies to data types: all
       Settings for detector elements:
         Element ID: 366
           Applies to: Whole experiment
           Minimum:    None
           Maximum:    10.0
           JSON:       None
     Entry ID: 33
       Applies to data types: all
       Settings for detector elements:
         Element ID: 379
           Applies to: Whole experiment
           Minimum:    10.0
           Maximum:    10.0
           JSON:       None
 Parameter ID: 56
   Parameter Name: bad channel t2
   Entries:
     Entry ID: 25
       Applies to data types: all
       Settings for detector elements:
         Element ID: 367
           Applies to: Whole experiment
           Minimum:    None
           Maximum:    3.0
           JSON:       None
     Entry ID: 34
       Applies to data types: all
       Settings for detector elements:
         Element ID: 380
           Applies to: Whole experiment
           Minimum:    10.0
           Maximum:    3.0
           JSON:       None
 Parameter ID: 57
   Parameter Name: bad decision channel
   Entries:
     Entry ID: 26
       Applies to data types: all
       Settings for detector elements:
         Element ID: 368
           Applies to: Whole experiment
```

# DQM

When I retrieve the settings object again and read it out…

```
        Element ID: 385
          Applies to: Whole experiment
          Minimum:    0.0
          Maximum:    4.0
          JSON:       None
  Parameter ID: 51
    Parameter Name: t1
    Entries:
      Entry ID: 22
        Applies to data types: all
        Settings for detector elements:
          Element ID: 361
            Applies to: Channel ID 1, name Q_TOP_OUTER, in detector T1Z1 / Channel ID 2, name Q_TOP_INNER, in detector T1Z1 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z1 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z1 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z2 / Channel ID 2, name Q_TOP_INNER, in detector T1Z2 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z2 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z2 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z3 / Channel ID 2, name Q_TOP_INNER, in detector T1Z3 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z3 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z3 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z4 / Channel ID 2, name Q_TOP_INNER, in detector T1Z4 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z4 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z4 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z6 / Channel ID 2, name Q_TOP_INNER, in detector T1Z6 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z6 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z6 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z1 / Channel ID 2, name Q_TOP_INNER, in detector T2Z1 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z1 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T2Z1 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z2 / Channel ID 2, name Q_TOP_INNER, in detector T2Z2 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z2 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T2Z2 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z3 / Channel ID 2, name Q_TOP_INNER, in detector T2Z3 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z3 / Channel ID 10, name Q_BOTTOM_IN
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NER, in detector T2Z4 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z5 / Channel ID 2, name Q_TOP_INNER, in detector T2Z5 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z5 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T2Z5 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z6 / Channel ID 2, name Q_TOP_INNER, in detector T2Z6 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z6 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T2Z6 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z1 / Channel ID 2, name Q_TOP_INNER, in detector T3Z1 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z1 / Channel ID 10, name Q_BOTTOM_IN
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NER, in detector T3Z3 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z4 / Channel ID 2, name Q_TOP_INNER, in detector T3Z4 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z4 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T3Z4 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z5 / Channel ID 2, name Q_TOP_INNER, in detector T3Z5 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z5 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T3Z5 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z6 / Channel ID 2, name Q_TOP_INNER, in detector T3Z6 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z6 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T3Z6 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z1 / Channel ID 2, name Q_TOP_INNER, in detector T4Z1 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z1 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z1 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z2 / Channel ID 2, name Q_TOP_INNER, in detector T4Z2 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z2 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z2 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z3 / Channel ID 2, name Q_TOP_INNER, in detector T4Z3 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z3 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z3 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z4 / Channel ID 2, name Q_TOP_INNER, in detector T4Z4 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z4 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z4 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z5 / Channel ID 2, name Q_TOP_INNER, in detector T4Z5 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z5 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z5 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z6 / Channel ID 2, name Q_TOP_INNER, in detector T4Z6 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z6 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z6
          Minimum:    None
          Maximum:    None
          JSON:       {u'max': [[100, 700000, 2e-06], [100, 100000, 8e-07]], u'min': [[100, 700000, 1e-09]]}
        Element ID: 362
          Applies to: Channel ID 3, name P_TOP_1, in detector T1Z1 / Channel ID 4, name P_TOP_2, in detector T1Z1 / Channel ID 5, name P_TOP_3, in detector T1Z1 / Channel ID 6, name P_TOP_4, in detector T1Z1 /
 Channel ID 7, name P_TOP_5, in detector T1Z1 / Channel ID 8, name P_TOP_6, in detector T1Z1 / Channel ID 11, name P_BOTTOM_1, in detector T1Z1 / Channel ID 12, name P_BOTTOM_2, in detector T1Z1 / Channel ID 13,
 name P_BOTTOM_3, in detector T1Z1 / Channel ID 14, name P_BOTTOM_4, in detector T1Z1 / Channel ID 15, name P_BOTTOM_5, in detector T1Z1 / Channel ID 16, name P_BOTTOM_6, in detector T1Z1 / Channel ID 3, name P_
TOP_1, in detector T1Z2 / Channel ID 4, name P_TOP_2, in detector T1Z2 / Channel ID 5, name P_TOP_3, in detector T1Z2 / Channel ID 6, name P_TOP_4, in detector T1Z2 / Channel ID 7, name P_TOP_5, in detector T1Z2
 / Channel ID 8, name P_TOP_6, in detector T1Z2 / Channel ID 11, name P_BOTTOM_1, in detector T1Z2 / Channel ID 12, name P_BOTTOM_2, in detector T1Z2 / Channel ID 13, name P_BOTTOM_3, in detector T1Z2 / Channel
ID 14, name P_BOTTOM_4, in detector T1Z2 / Channel ID 15, name P_BOTTOM_5, in detector T1Z2 / Channel ID 16, name P_BOTTOM_6, in detector T1Z2 / Channel ID 3, name P_TOP_1, in detector T1Z3 / Channel ID 4, name
P_TOP_2, in detector T1Z3 / Channel ID 5, name P_TOP_3, in detector T1Z3 / Channel ID 6, name P_TOP_4, in detector T1Z3 / Channel ID 7, name P_TOP_5, in detector T1Z3 / Channel ID 8, name P_TOP_6, in detector T1
Z3 / Channel ID 11, name P_BOTTOM_1, in detector T1Z3 / Channel ID 12, name P_BOTTOM_2, in detector T1Z3 / Channel ID 13, name P_BOTTOM_3, in detector T1Z3 / Channel ID 14, name P_BOTTOM_4, in detector T1Z3 / Ch
annel ID 15, name P_BOTTOM_5, in detector T1Z3 / Channel ID 16, name P_BOTTOM_6, in detector T1Z3 / Channel ID 3, name P_TOP_1, in detector T1Z4 / Channel ID 4, name P_TOP_2, in detector T1Z4 / Channel ID 5, nam
e P_TOP_3, in detector T1Z4 / Channel ID 6, name P_TOP_4, in detector T1Z4 / Channel ID 7, name P_TOP_5, in detector T1Z4 / Channel ID 8, name P_TOP_6, in detector T1Z4 / Channel ID 11, name P_BOTTOM_1, in detec
tor T1Z4 / Channel ID 12, name P_BOTTOM_2, in detector T1Z4 / Channel ID 13, name P_BOTTOM_3, in detector T1Z4 / Channel ID 14, name P_BOTTOM_4, in detector T1Z4 / Channel ID 15, name P_BOTTOM_5, in detector T1Z
4 / Channel ID 16, name P_BOTTOM_6, in detector T1Z4 / Channel ID 3, name P_TOP_1, in detector T1Z6 / Channel ID 4, name P_TOP_2, in detector T1Z6 / Channel ID 5, name P_TOP_3, in detector T1Z6 / Channel ID 6, n
```

mwilson@cdms:~/DQM/dqm/python/dqm/deciders

File Edit View Search Terminal Help

```
tor T4Z1 / Channel ID 3, name P_TOP_1, in detector T4Z2 / Channel ID 4, name P_TOP_2, in detector T4Z2 / Channel ID 5, name P_TOP_3, in detector T4Z2 / Channel ID 6, name P_TOP_4, in detector T4Z2 / Channel ID 7
, name P_TOP_5, in detector T4Z2 / Channel ID 8, name P_TOP_6, in detector T4Z2 / Channel ID 11, name P_BOTTOM_1, in detector T4Z2 / Channel ID 12, name P_BOTTOM_2, in detector T4Z2 / Channel ID 13, name P_BOTTO
M_3, in detector T4Z2 / Channel ID 14, name P_BOTTOM_4, in detector T4Z2 / Channel ID 15, name P_BOTTOM_5, in detector T4Z2 / Channel ID 16, name P_BOTTOM_6, in detector T4Z2 / Channel ID 3, name P_TOP_1, in det
ector T4Z3 / Channel ID 4, name P_TOP_2, in detector T4Z3 / Channel ID 5, name P_TOP_3, in detector T4Z3 / Channel ID 6, name P_TOP_4, in detector T4Z3 / Channel ID 7, name P_TOP_5, in detector T4Z3 / Channel ID
 8, name P_TOP_6, in detector T4Z3 / Channel ID 11, name P_BOTTOM_1, in detector T4Z3 / Channel ID 12, name P_BOTTOM_2, in detector T4Z3 / Channel ID 13, name P_BOTTOM_3, in detector T4Z3 / Channel ID 14, name P
_BOTTOM_4, in detector T4Z3 / Channel ID 15, name P_BOTTOM_5, in detector T4Z3 / Channel ID 16, name P_BOTTOM_6, in detector T4Z3 / Channel ID 3, name P_TOP_1, in detector T4Z4 / Channel ID 4, name P_TOP_2, in d
etector T4Z4 / Channel ID 5, name P_TOP_3, in detector T4Z4 / Channel ID 6, name P_TOP_4, in detector T4Z4 / Channel ID 7, name P_TOP_5, in detector T4Z4 / Channel ID 8, name P_TOP_6, in detector T4Z4 / Channel
ID 11, name P_BOTTOM_1, in detector T4Z4 / Channel ID 12, name P_BOTTOM_2, in detector T4Z4 / Channel ID 13, name P_BOTTOM_3, in detector T4Z4 / Channel ID 14, name P_BOTTOM_4, in detector T4Z4 / Channel ID 15,
name P_BOTTOM_5, in detector T4Z4 / Channel ID 16, name P_BOTTOM_6, in detector T4Z4 / Channel ID 3, name P_TOP_1, in detector T4Z5 / Channel ID 4, name P_TOP_2, in detector T4Z5 / Channel ID 5, name P_TOP_3, in
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annel ID 12, name P_BOTTOM_2, in detector T4Z5 / Channel ID 13, name P_BOTTOM_3, in detector T4Z5 / Channel ID 14, name P_BOTTOM_4, in detector T4Z5 / Channel ID 15, name P_BOTTOM_5, in detector T4Z5 / Channel I
D 16, name P_BOTTOM_6, in detector T4Z5 / Channel ID 3, name P_TOP_1, in detector T4Z6 / Channel ID 4, name P_TOP_2, in detector T4Z6 / Channel ID 5, name P_TOP_3, in detector T4Z6 / Channel ID 6, name P_TOP_4,
in detector T4Z6 / Channel ID 7, name P_TOP_5, in detector T4Z6 / Channel ID 8, name P_TOP_6, in detector T4Z6 / Channel ID 11, name P_BOTTOM_1, in detector T4Z6 / Channel ID 12, name P_BOTTOM_2, in detector T4Z
6 / Channel ID 13, name P_BOTTOM_3, in detector T4Z6 / Channel ID 14, name P_BOTTOM_4, in detector T4Z6 / Channel ID 15, name P_BOTTOM_5, in detector T4Z6 / Channel ID 16, name P_BOTTOM_6, in detector T4Z6
          Minimum:    None
          Maximum:    None
          JSON:       {u'max': [[100, 700000, 5e-10], [1000, 700000, 1e-10], [200000, 700000, 8e-09]], u'min': [[100, 700000, 1e-12]]}
        Element ID: 363
          Applies to: Detector ID 5, name T1Z5
          Minimum:    None
          Maximum:    None
          JSON:       {u'max': [[100, 700000, 2e-10], [1000, 700000, 6e-10], [200000, 700000, 4e-09], [2000, 2100, 1e-09]], u'min': [[100, 700000, 2e-12], [2000, 5000, 3e-12]]}
    Entry ID: 31
      Applies to data types: all
      Settings for detector elements:
        Element ID: 373
          Applies to: Channel ID 1, name Q_TOP_OUTER, in detector T1Z1 / Channel ID 2, name Q_TOP_INNER, in detector T1Z1 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z1 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z1 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z2 / Channel ID 2, name Q_TOP_INNER, in detector T1Z2 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z2 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z2 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z3 / Channel ID 2, name Q_TOP_INNER, in detector T1Z3 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z3 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z3 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z4 / Channel ID 2, name Q_TOP_INNER, in detector T1Z4 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z4 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z4 / Channel ID 1, name Q_TOP_OUTER, in detector T1Z6 / Channel ID 2, name Q_TOP_INNER, in detector T1Z6 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T1Z6 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T1Z6 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z1 / Channel ID 2, name Q_TOP_INNER, in detector T2Z1 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z1 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T2Z1 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z2 / Channel ID 2, name Q_TOP_INNER, in detector T2Z2 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z2 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T2Z2 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z3 / Channel ID 2, name Q_TOP_INNER, in detector T2Z3 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z3 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T2Z3 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z4 / Channel ID 2, name Q_TOP_INNER, in detector T2Z4 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z4 / Channel ID 10, name Q_BOTTOM_IN
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NER, in detector T2Z5 / Channel ID 1, name Q_TOP_OUTER, in detector T2Z6 / Channel ID 2, name Q_TOP_INNER, in detector T2Z6 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T2Z6 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T2Z6 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z1 / Channel ID 2, name Q_TOP_INNER, in detector T3Z1 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z1 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T3Z1 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z2 / Channel ID 2, name Q_TOP_INNER, in detector T3Z2 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z2 / Channel ID 10, name Q_BOTTOM_IN
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NER, in detector T3Z3 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z4 / Channel ID 2, name Q_TOP_INNER, in detector T3Z4 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z4 / Channel ID 10, name Q_BOTTOM_IN
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NER, in detector T3Z5 / Channel ID 1, name Q_TOP_OUTER, in detector T3Z6 / Channel ID 2, name Q_TOP_INNER, in detector T3Z6 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T3Z6 / Channel ID 10, name Q_BOTTOM_IN
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NER, in detector T4Z2 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z3 / Channel ID 2, name Q_TOP_INNER, in detector T4Z3 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z3 / Channel ID 10, name Q_BOTTOM_IN
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NER, in detector T4Z4 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z5 / Channel ID 2, name Q_TOP_INNER, in detector T4Z5 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z5 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z5 / Channel ID 1, name Q_TOP_OUTER, in detector T4Z6 / Channel ID 2, name Q_TOP_INNER, in detector T4Z6 / Channel ID 9, name Q_BOTTOM_OUTER, in detector T4Z6 / Channel ID 10, name Q_BOTTOM_IN
NER, in detector T4Z6
          Minimum:    None
          Maximum:    None
```

# DQM

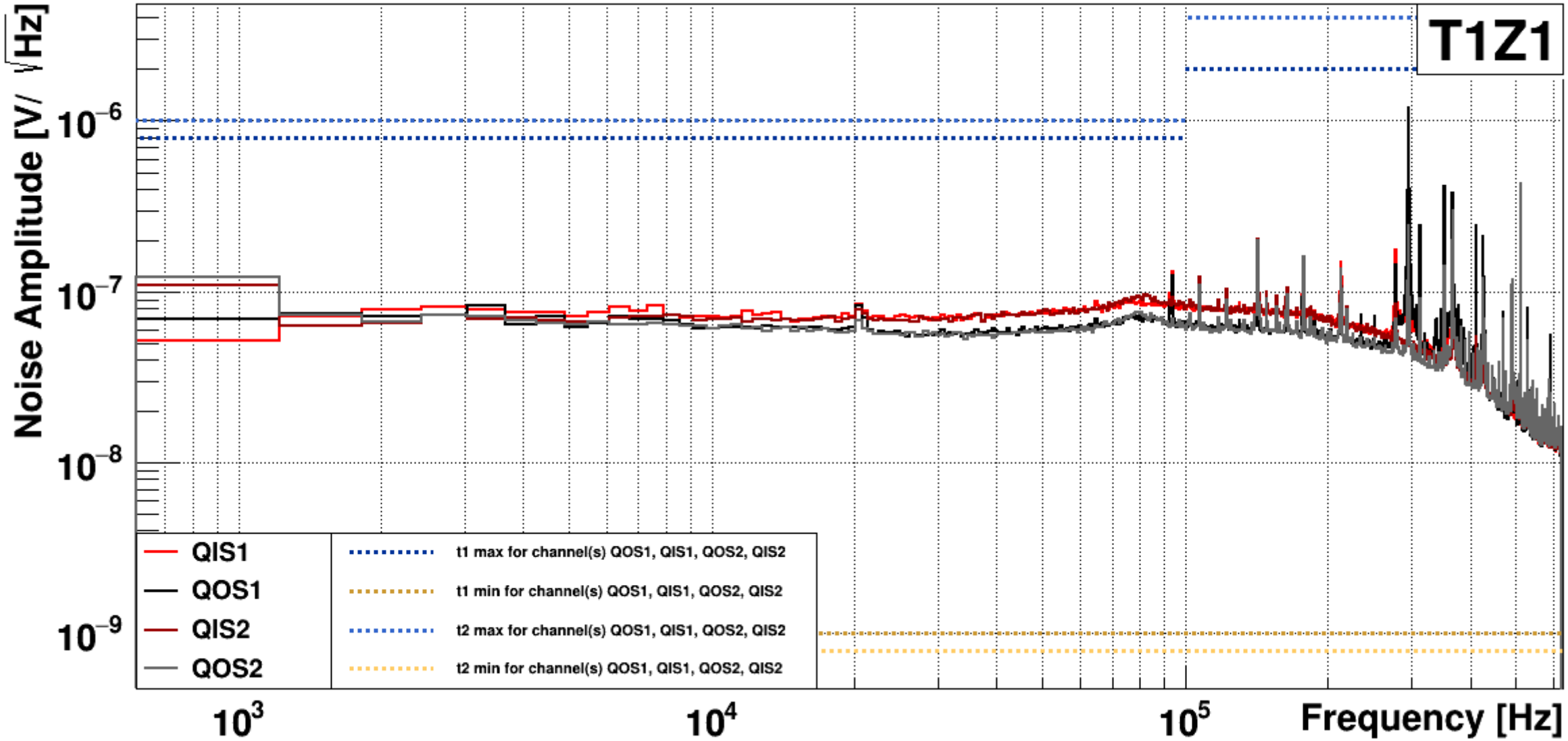
- I’m getting duplicate entries.
- And the entry to that specific channel goes away!

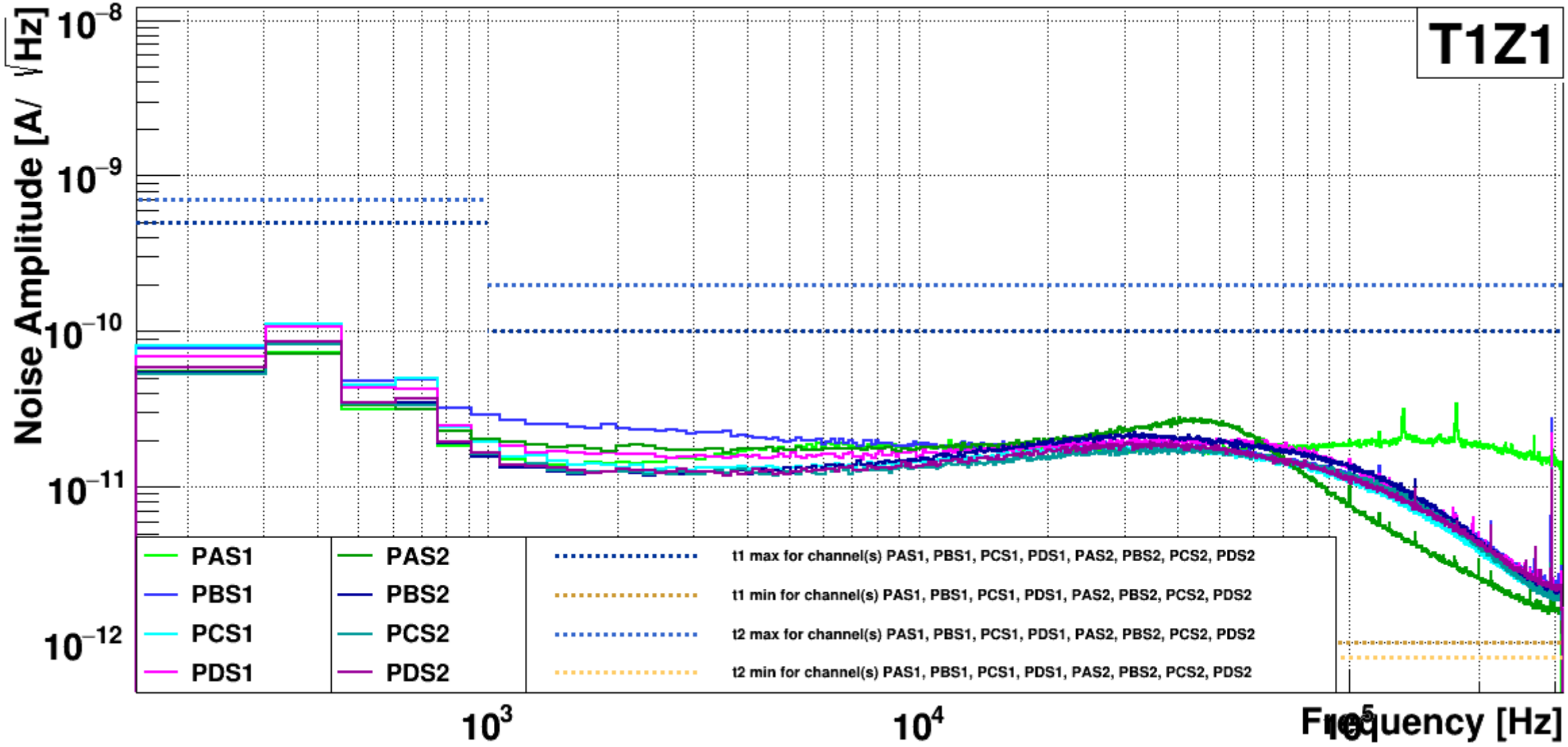
- Need to discuss with Ben to see what is going on here

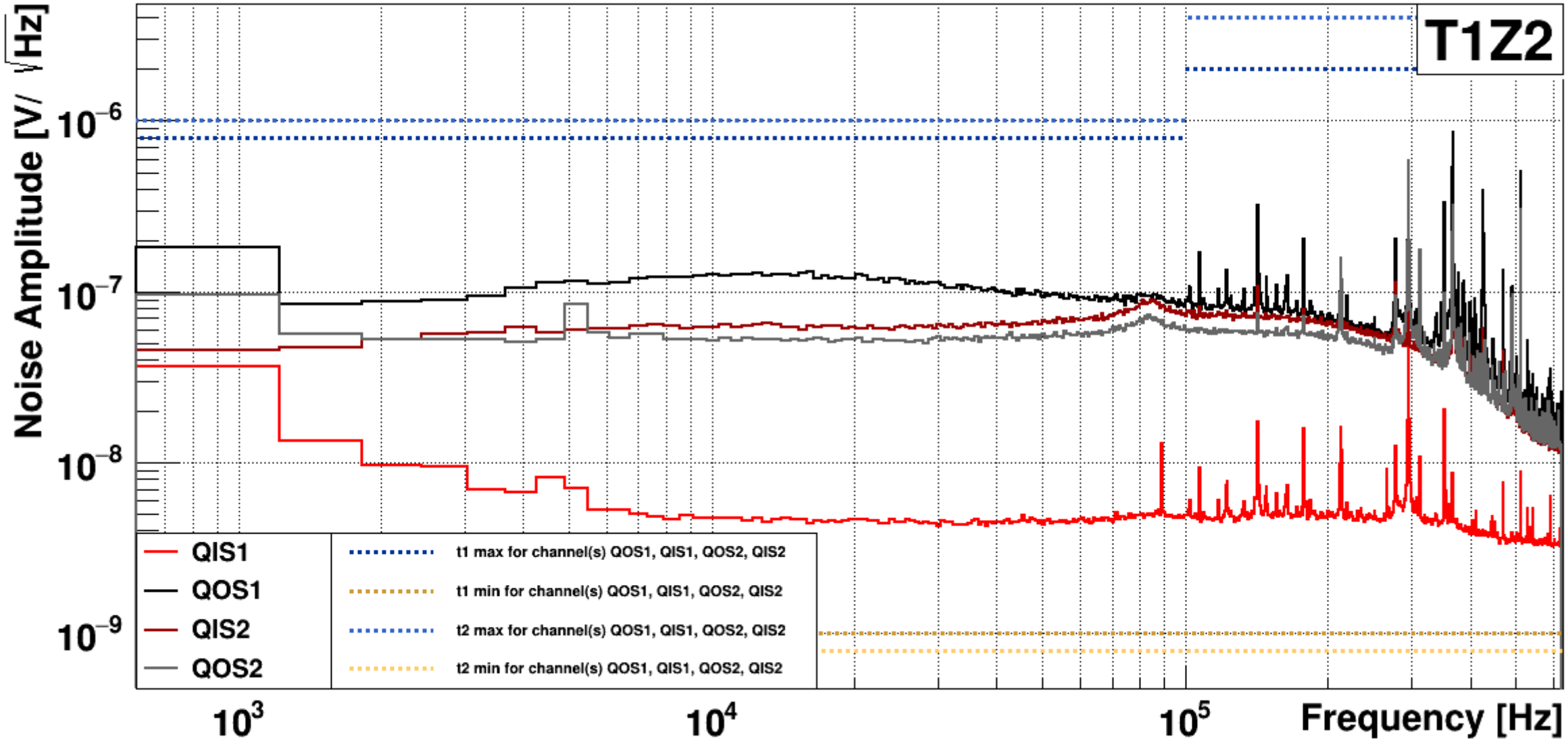
- Also, the time to upload the settings it quite long (several minutes), and I’m not sure if that is expected or if it is the way I’m doing it

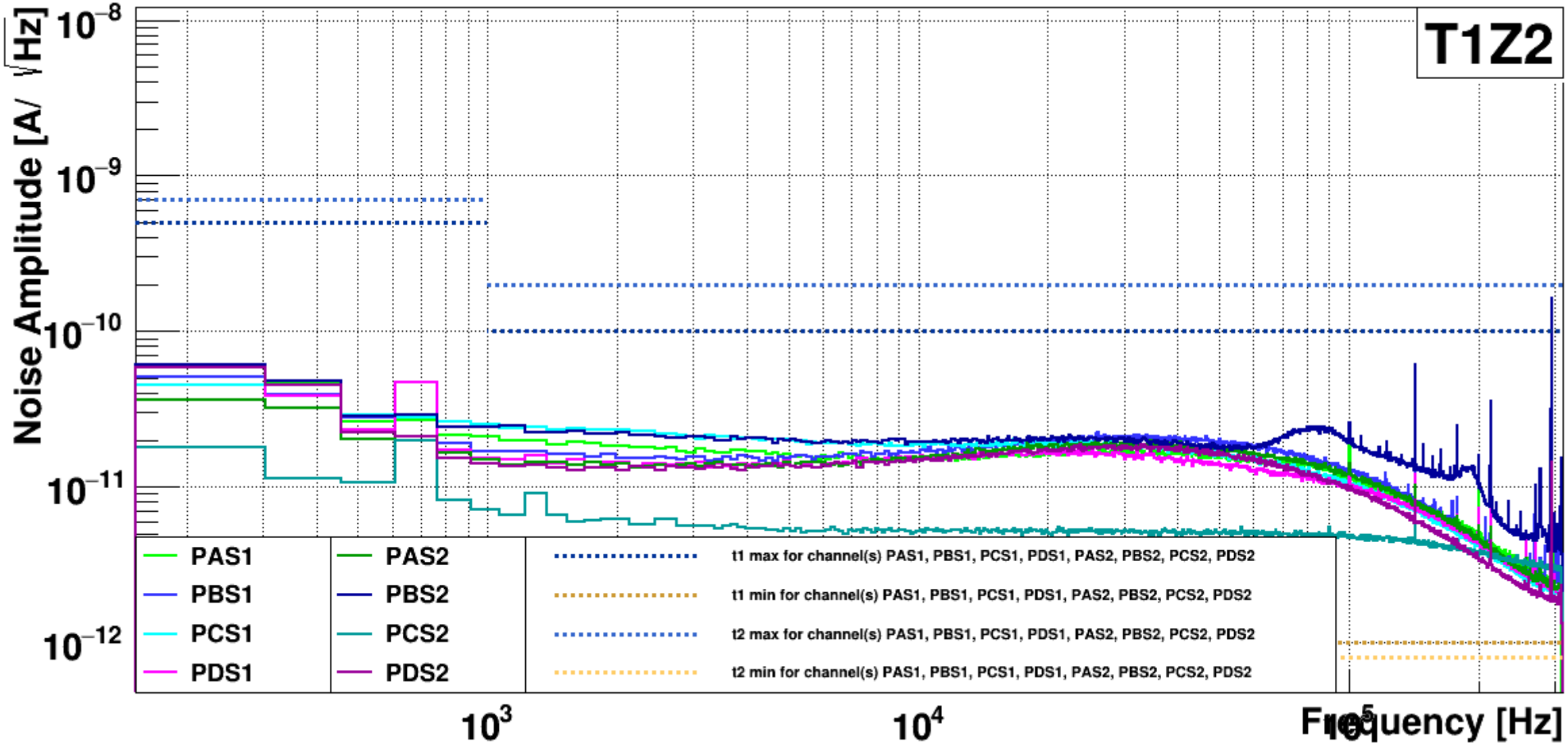
# DQM

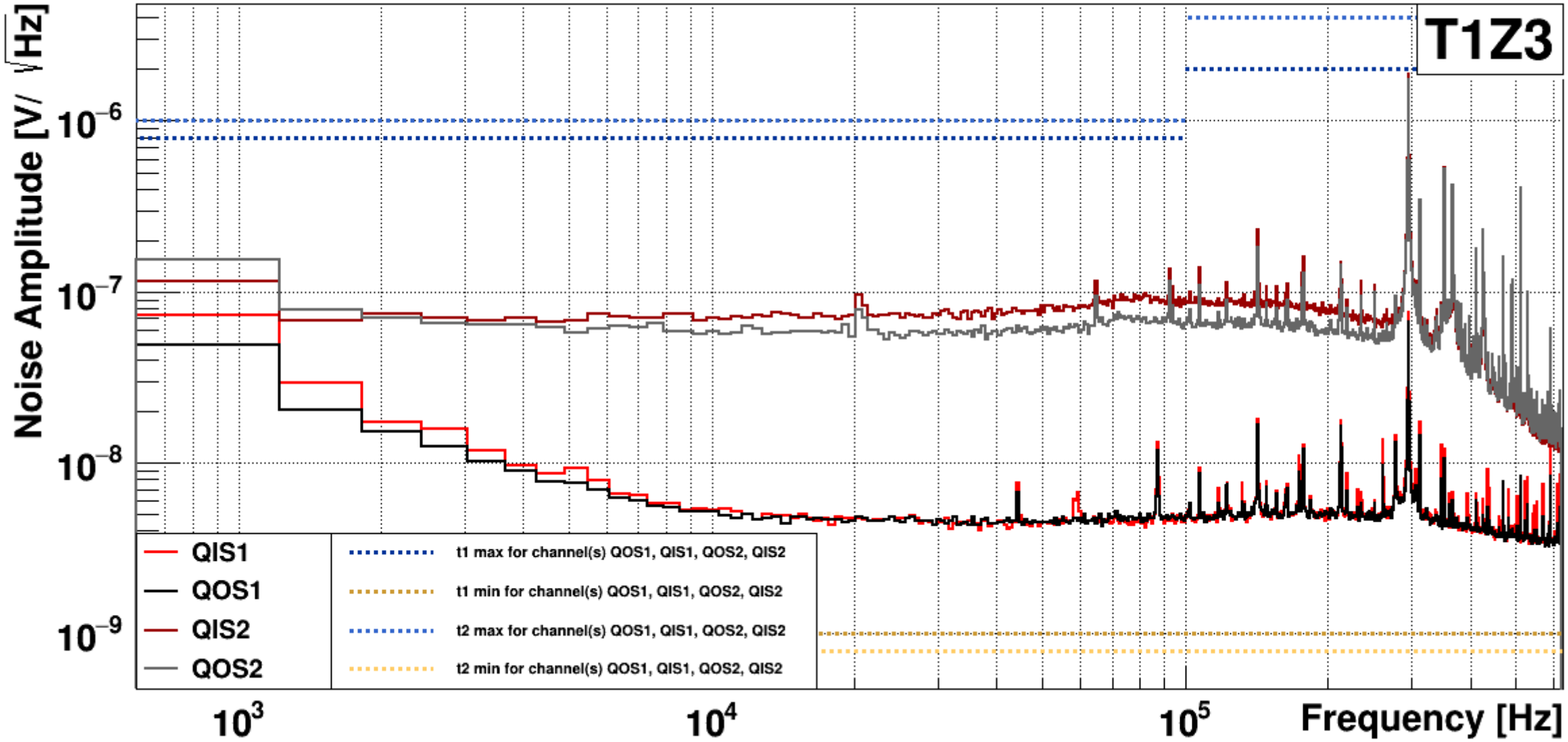
- The ‘decision’ part of the code works fine.
- I added the ability to plot the noisePSD with the thresholds for a specific detector
  - Whenever a detector is deemed “bad”.
- “This shouldn’t be too hard”
- The algorithms are quite complicated, and add several hundred lines of code compared to without thresholds
  - Variable number or thresholds to plot
  - Variable number of entries to plot for each threshold
  - “cut” the entries, so you only see the tightest thresholds, which depends on all other entries for the threshold number
  - Group channels with the same entries, so I’m minimize the number of lines to plot

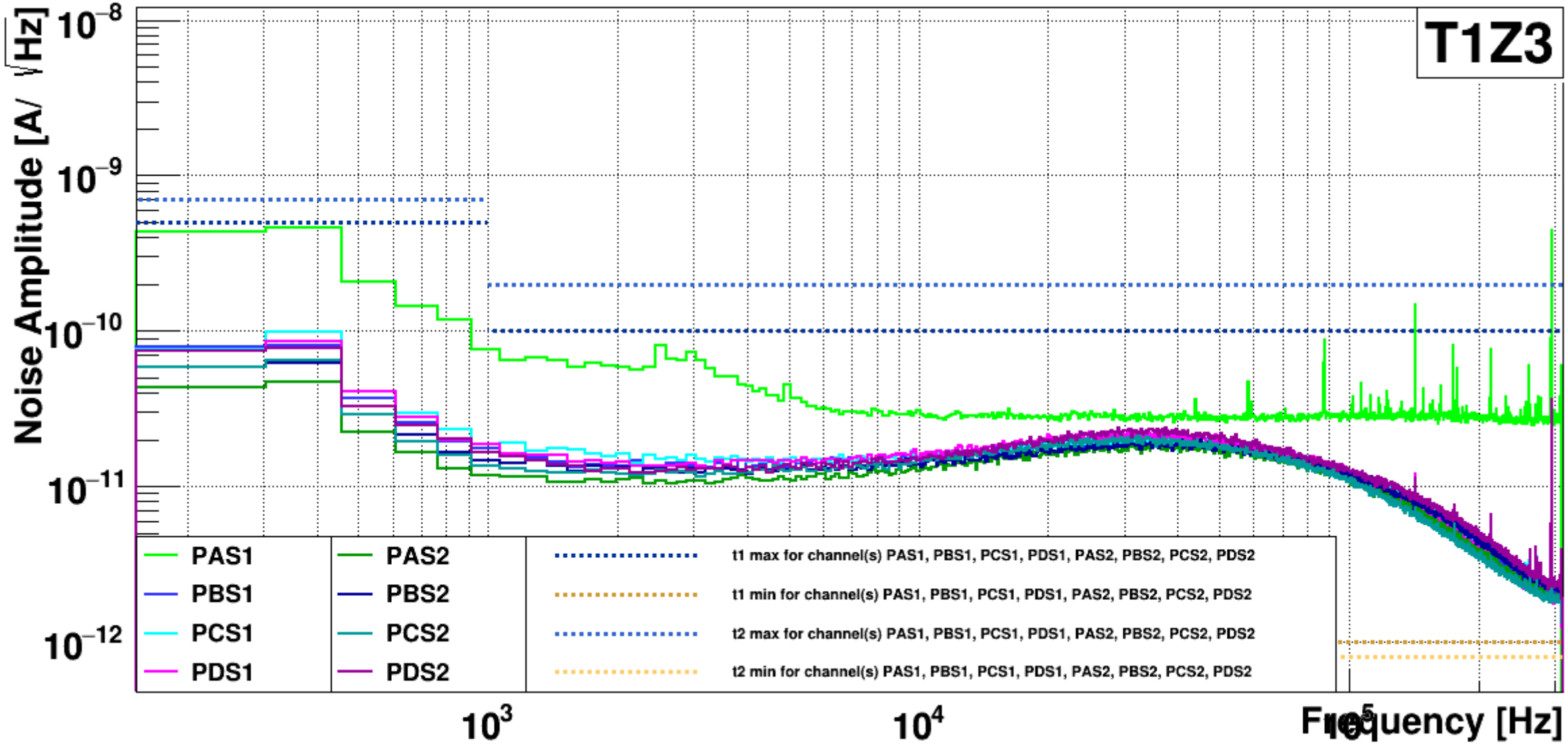

T1Z1
Noise Amplitude [V/ √Hz]
10^-6
10^-7
10^-8
10^-9
10^3
10^4
10^5
Frequency [Hz]
QIS1
QOS1
QIS2
QOS2
t1 max for channel(s) QOS1, QIS1, QOS2, QIS2
t1 min for channel(s) QOS1, QIS1, QOS2, QIS2
t2 max for channel(s) QOS1, QIS1, QOS2, QIS2
t2 min for channel(s) QOS1, QIS1, QOS2, QIS2

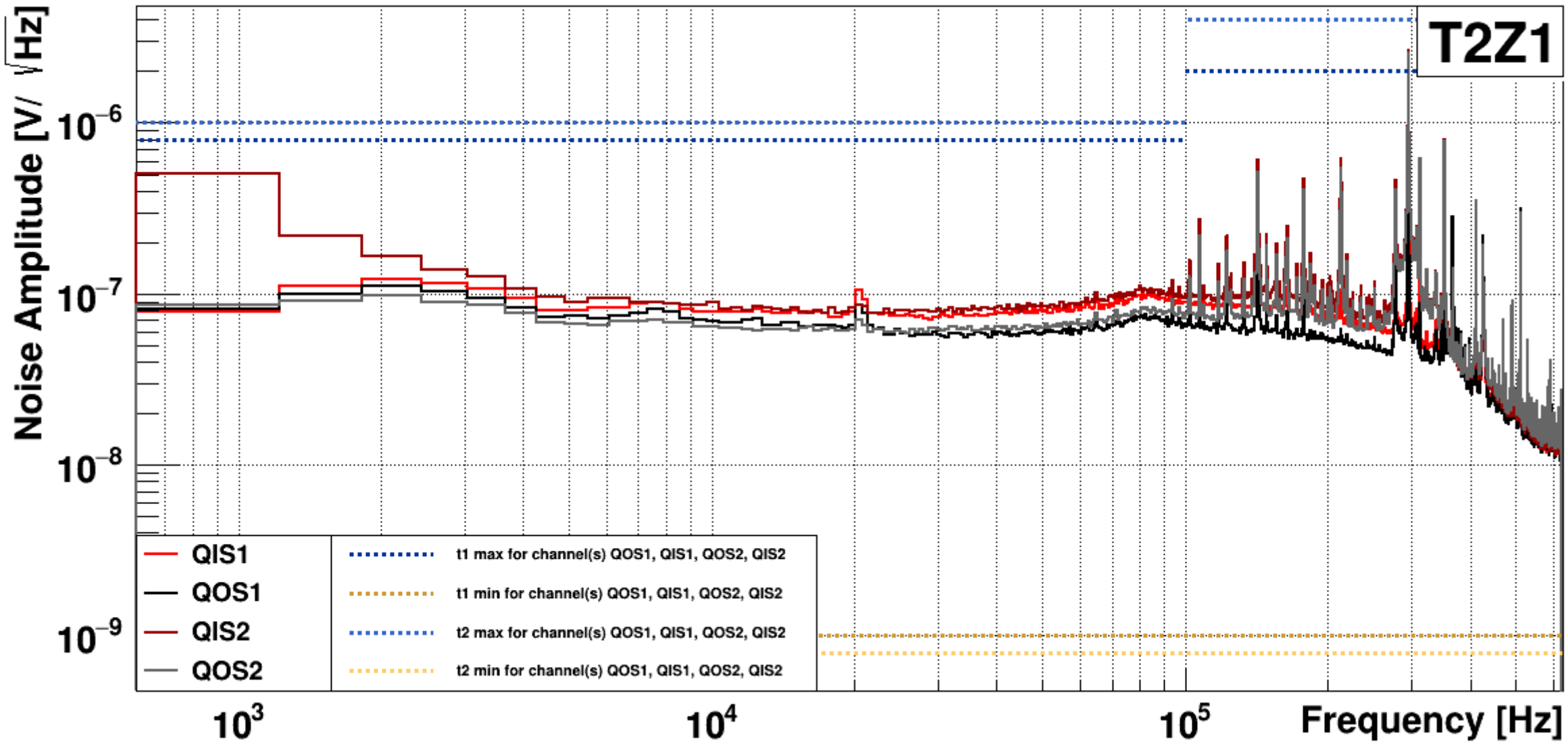

T1Z1
Noise Amplitude [A/ √Hz]
10^-8
10^-9
10^-10
10^-11
10^-12
10^3
10^4
10^5
Frequency [Hz]
PAS1
PBS1
PCS1
PDS1
PAS2
PBS2
PCS2
PDS2
t1 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t1 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2

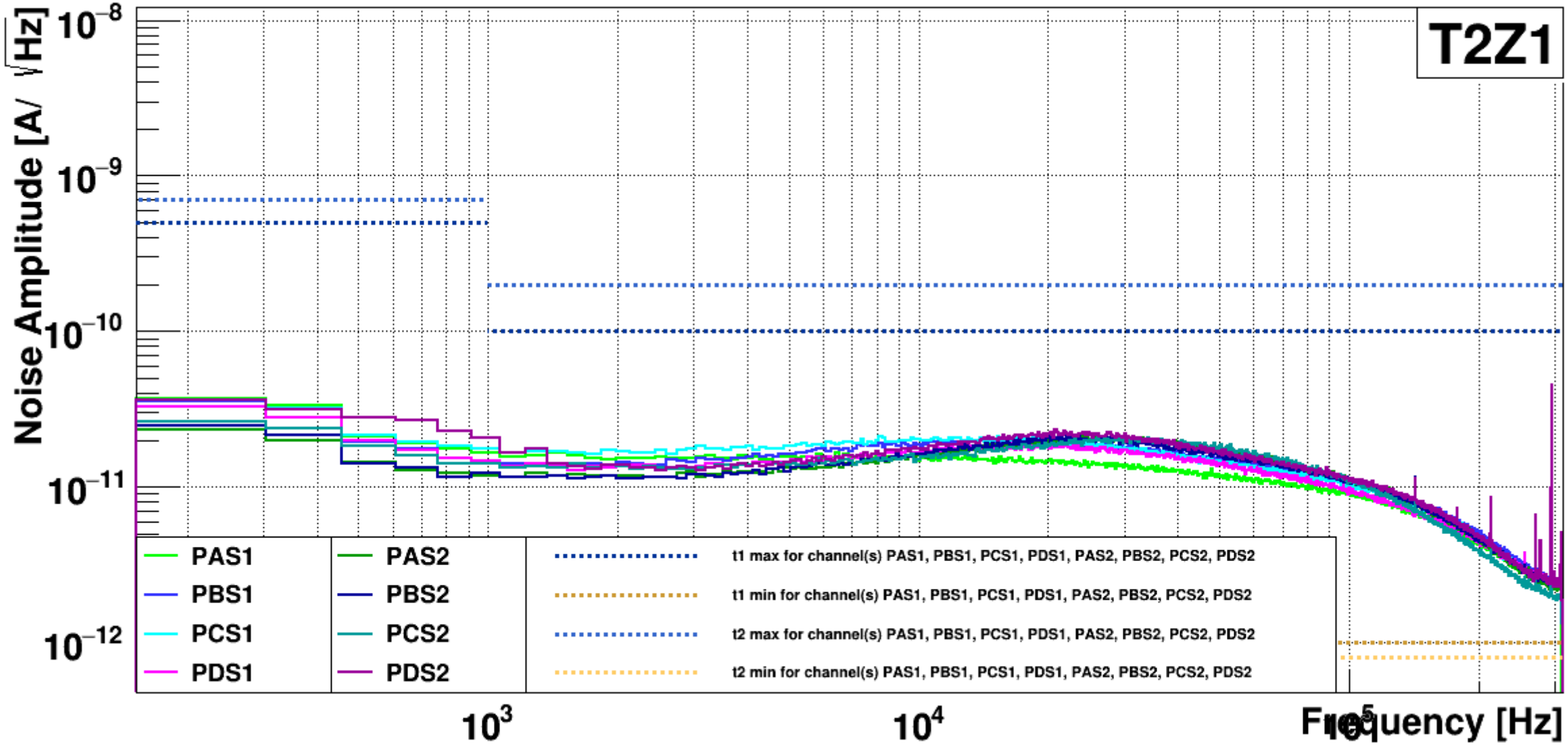

T1Z2
Noise Amplitude [V/ √Hz]
10^-6
10^-7
10^-8
10^-9
10^3
10^4
10^5
Frequency [Hz]
QIS1
QOS1
QIS2
QOS2
t1 max for channel(s) QOS1, QIS1, QOS2, QIS2
t1 min for channel(s) QOS1, QIS1, QOS2, QIS2
t2 max for channel(s) QOS1, QIS1, QOS2, QIS2
t2 min for channel(s) QOS1, QIS1, QOS2, QIS2

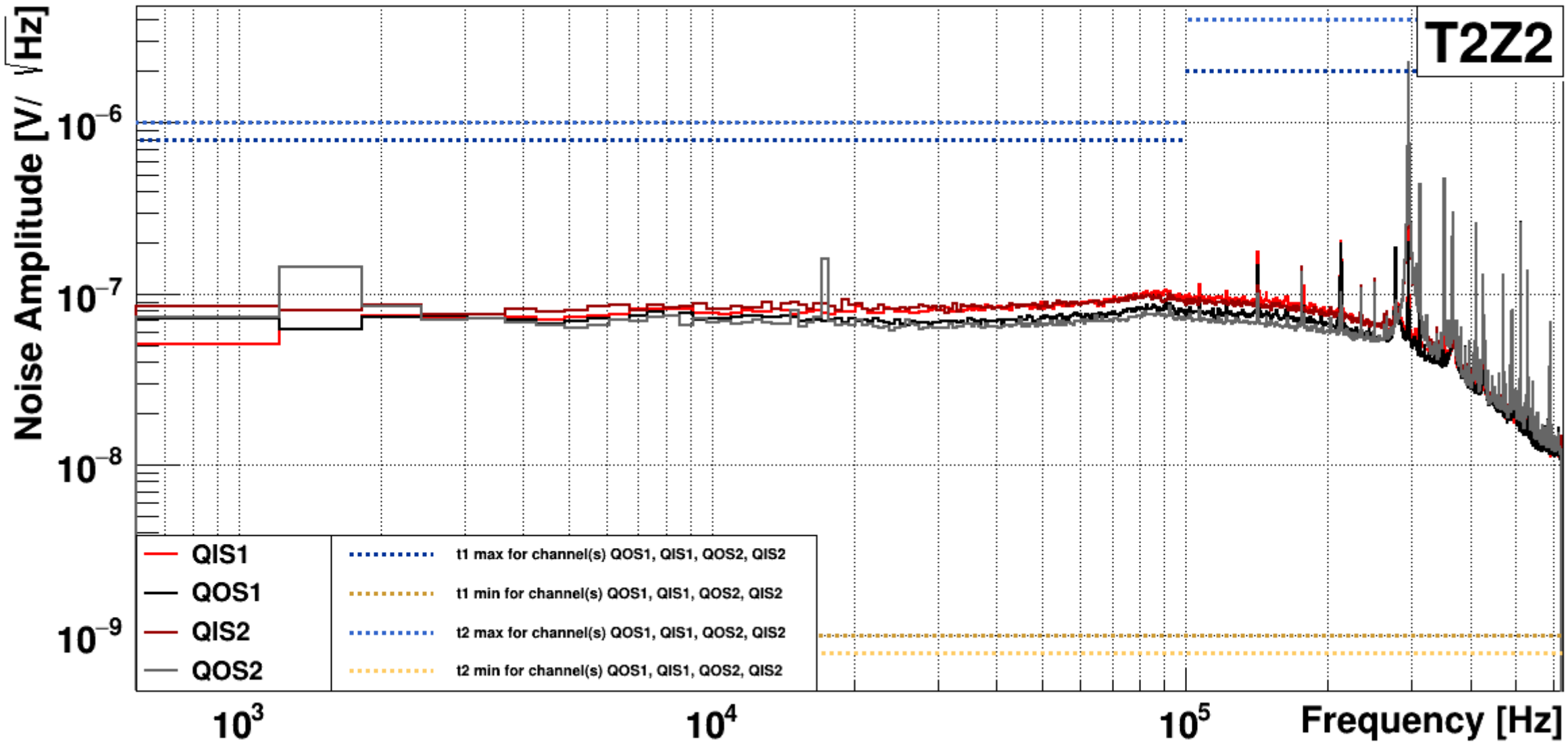

T1Z2
Noise Amplitude [A/ √Hz]
10^-8
10^-9
10^-10
10^-11
10^-12
10^3
10^4
10^5
Frequency [Hz]
PAS1
PBS1
PCS1
PDS1
PAS2
PBS2
PCS2
PDS2
t1 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t1 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2

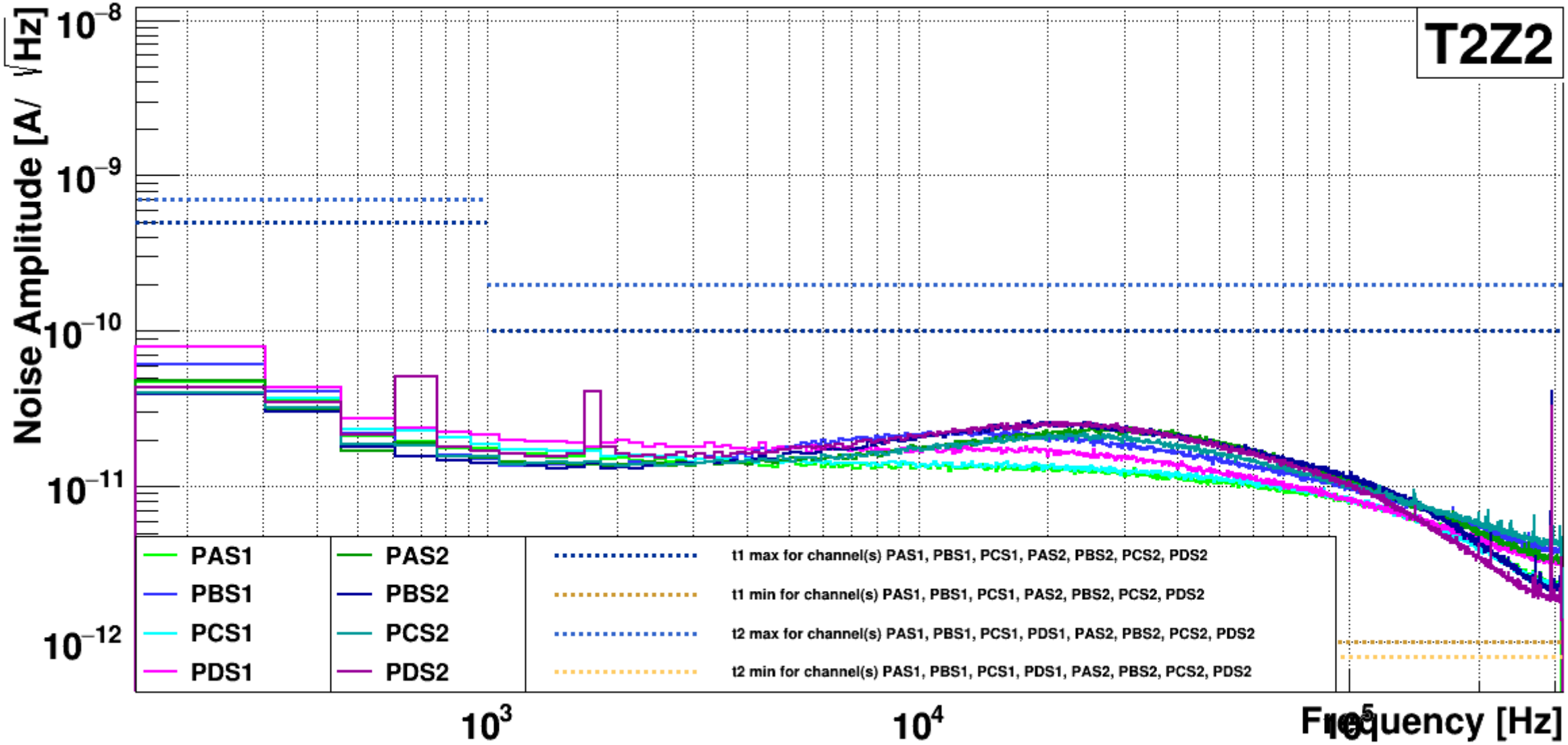

T1Z3
Noise Amplitude [V/ √Hz]
10^-6
10^-7
10^-8
10^-9
10^3
10^4
10^5
Frequency [Hz]
QIS1
QOS1
QIS2
QOS2
t1 max for channel(s) QOS1, QIS1, QOS2, QIS2
t1 min for channel(s) QOS1, QIS1, QOS2, QIS2
t2 max for channel(s) QOS1, QIS1, QOS2, QIS2
t2 min for channel(s) QOS1, QIS1, QOS2, QIS2

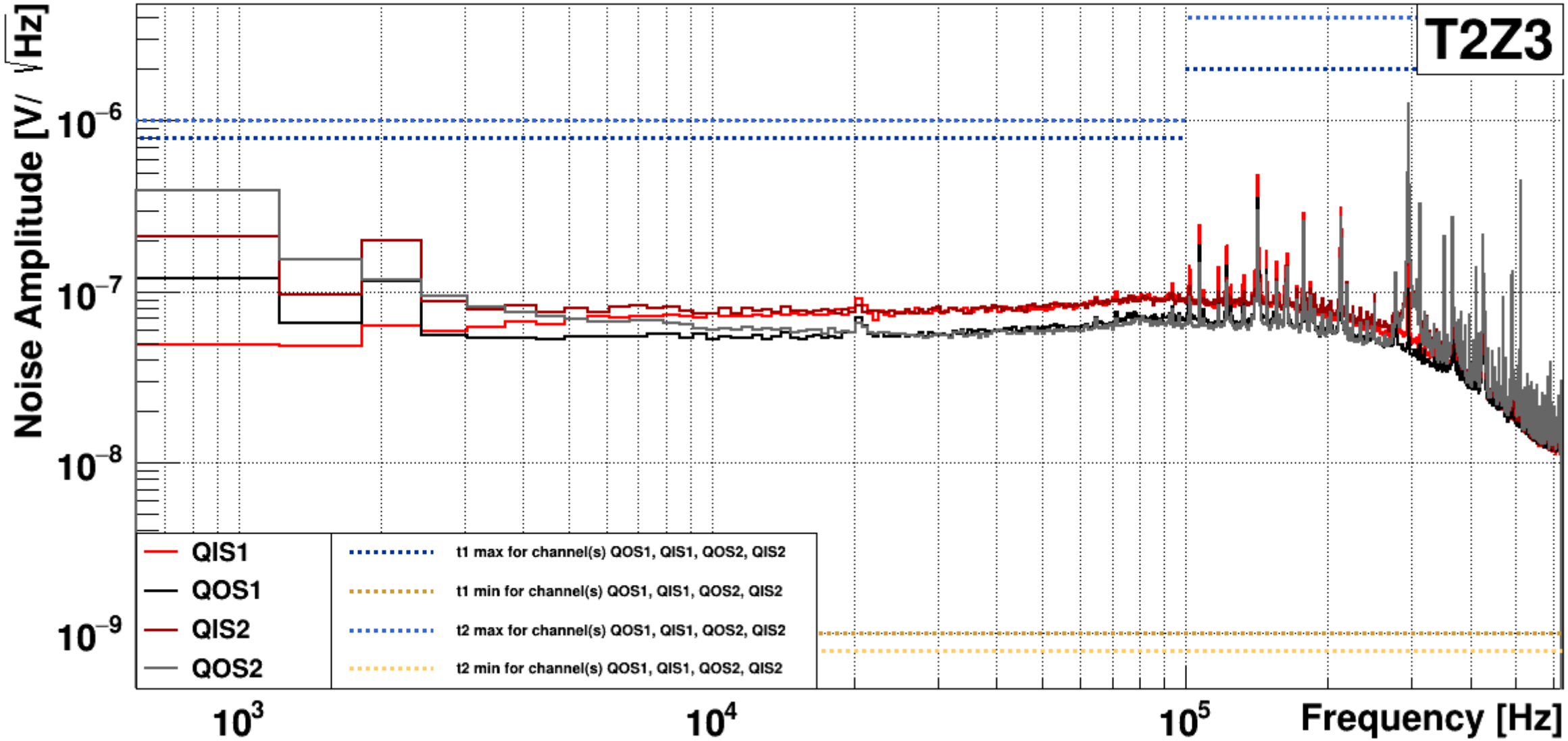

T1Z3
Noise Amplitude [A/ √Hz]
$10^{-8}$
$10^{-9}$
$10^{-10}$
$10^{-11}$
$10^{-12}$
$10^{3}$
$10^{4}$
$10^{5}$
Frequency [Hz]
PAS1
PBS1
PCS1
PDS1
PAS2
PBS2
PCS2
PDS2
t1 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t1 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2

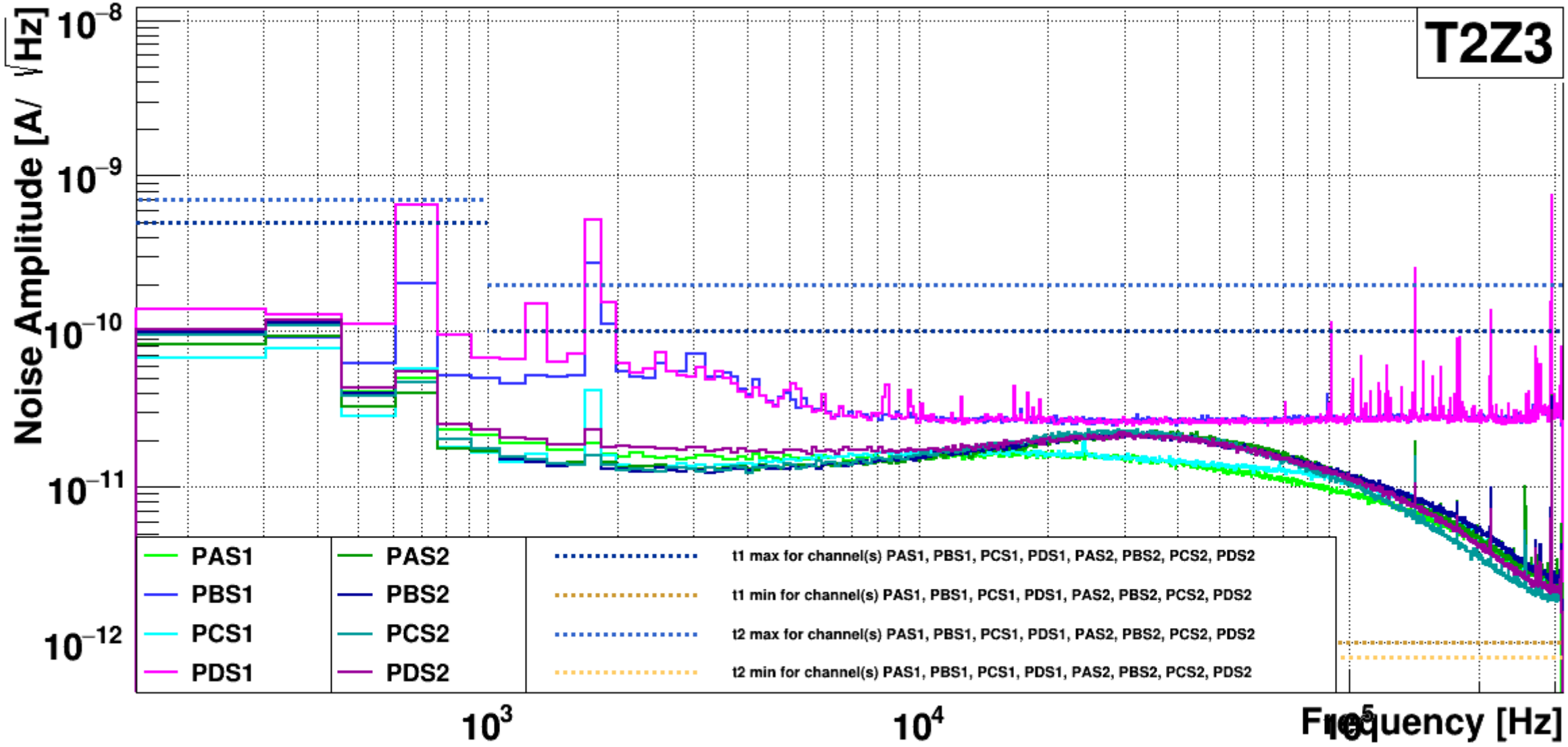

T2Z1
Noise Amplitude [V/ √Hz]
10^-6
10^-7
10^-8
10^-9
10^3
10^4
10^5
Frequency [Hz]
QIS1
QOS1
QIS2
QOS2
t1 max for channel(s) QOS1, QIS1, QOS2, QIS2
t1 min for channel(s) QOS1, QIS1, QOS2, QIS2
t2 max for channel(s) QOS1, QIS1, QOS2, QIS2
t2 min for channel(s) QOS1, QIS1, QOS2, QIS2

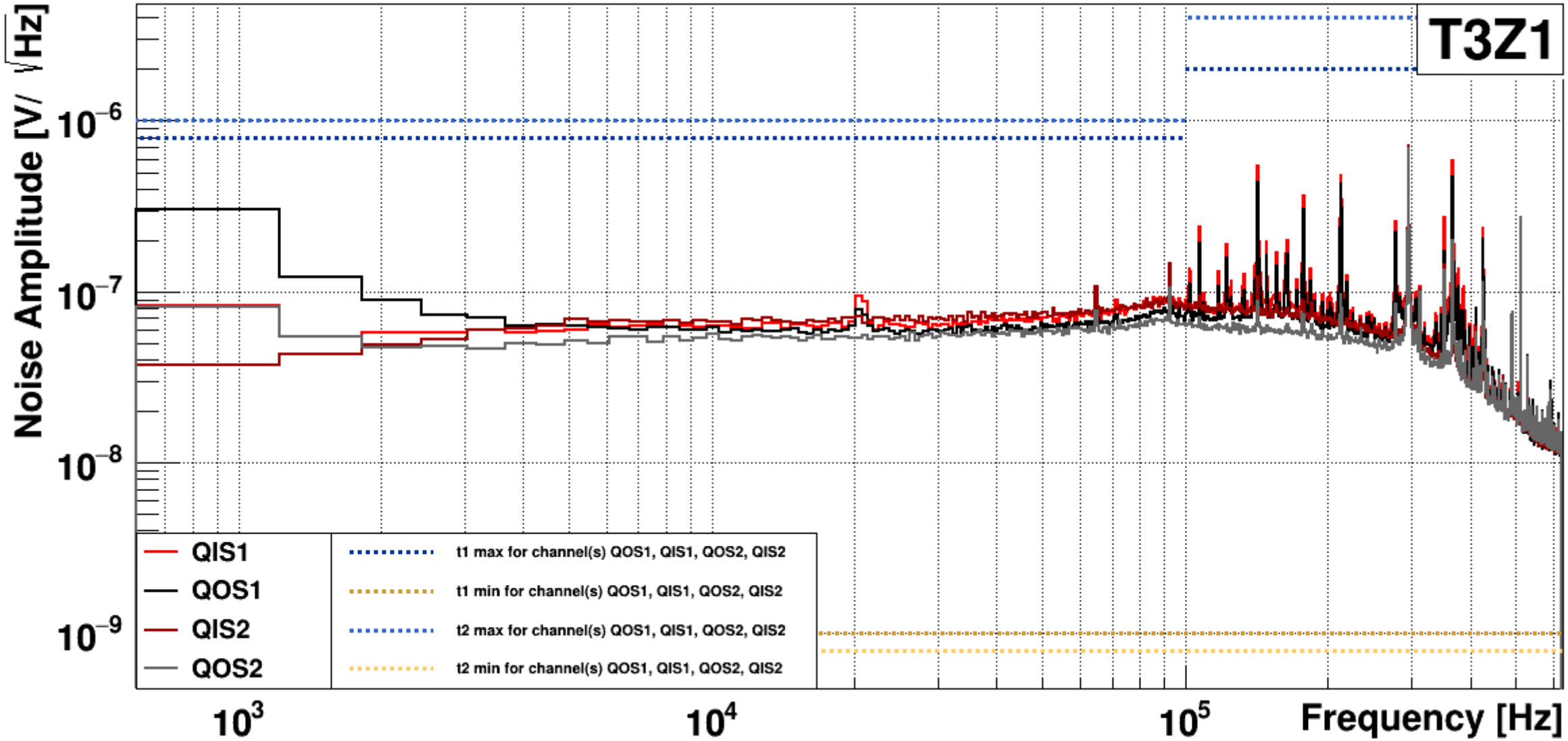

T2Z1
Noise Amplitude [A/ √Hz]
$10^{-8}$
$10^{-9}$
$10^{-10}$
$10^{-11}$
$10^{-12}$
$10^{3}$
$10^{4}$
$10^{5}$
Frequency [Hz]
PAS1
PBS1
PCS1
PDS1
PAS2
PBS2
PCS2
PDS2
t1 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t1 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2

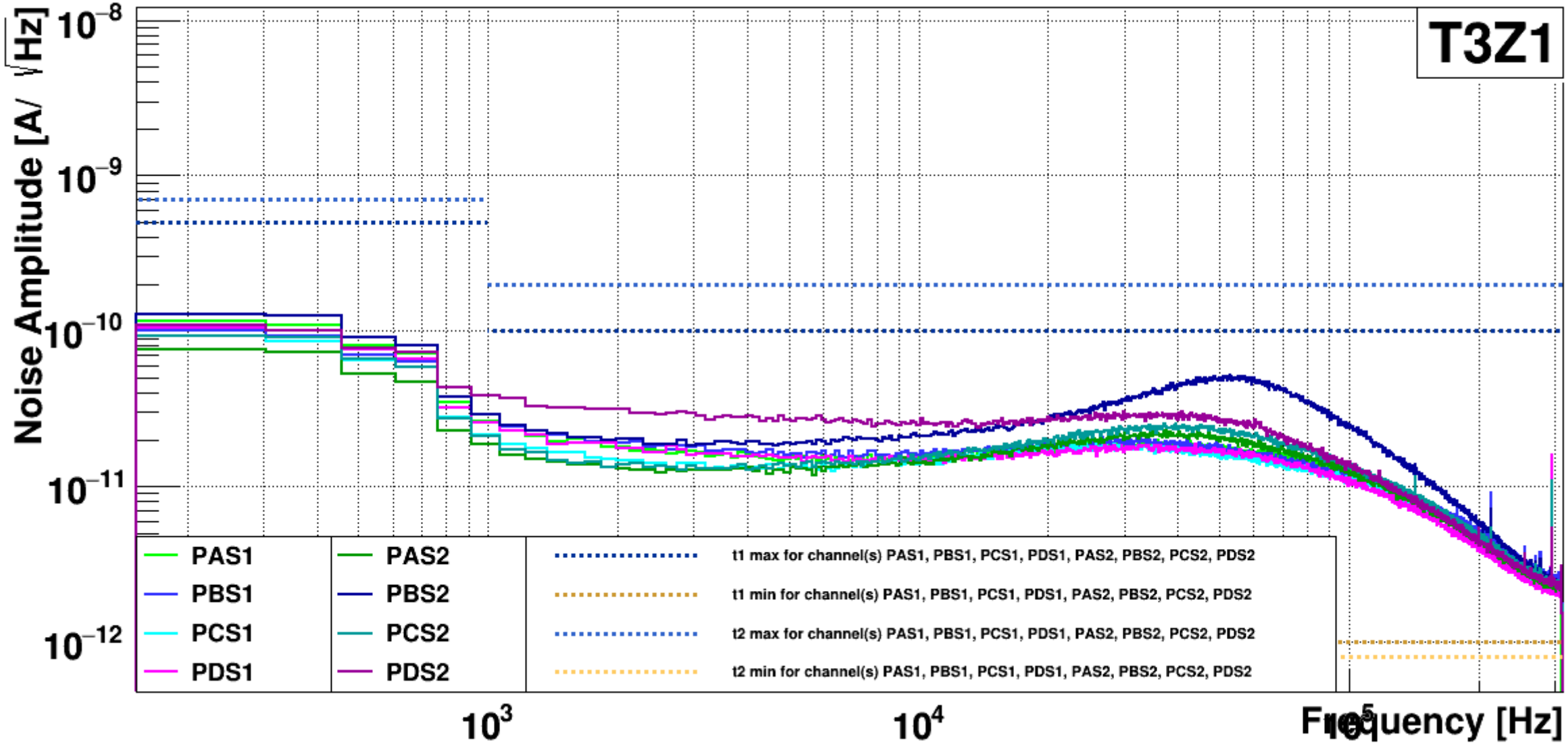

T2Z2
Noise Amplitude [V/ √Hz]
10^-6
10^-7
10^-8
10^-9
10^3
10^4
10^5
Frequency [Hz]
QIS1
QOS1
QIS2
QOS2
t1 max for channel(s) QOS1, QIS1, QOS2, QIS2
t1 min for channel(s) QOS1, QIS1, QOS2, QIS2
t2 max for channel(s) QOS1, QIS1, QOS2, QIS2
t2 min for channel(s) QOS1, QIS1, QOS2, QIS2

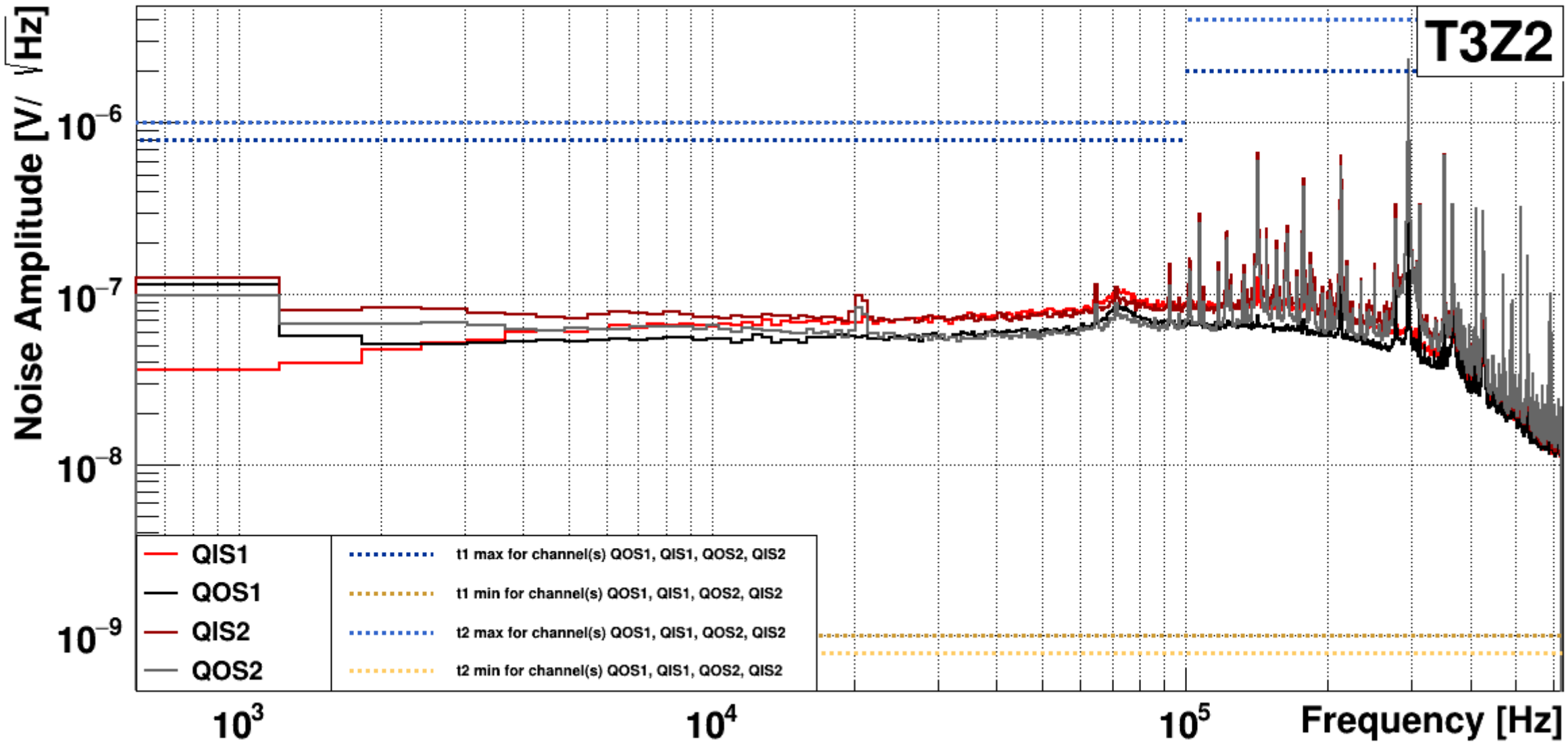

T2Z2
Noise Amplitude [A/ √Hz]
10^-8
10^-9
10^-10
10^-11
10^-12
10^3
10^4
10^5
Frequency [Hz]
PAS1
PBS1
PCS1
PDS1
PAS2
PBS2
PCS2
PDS2
t1 max for channel(s) PAS1, PBS1, PCS1, PAS2, PBS2, PCS2, PDS2
t1 min for channel(s) PAS1, PBS1, PCS1, PAS2, PBS2, PCS2, PDS2
t2 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2

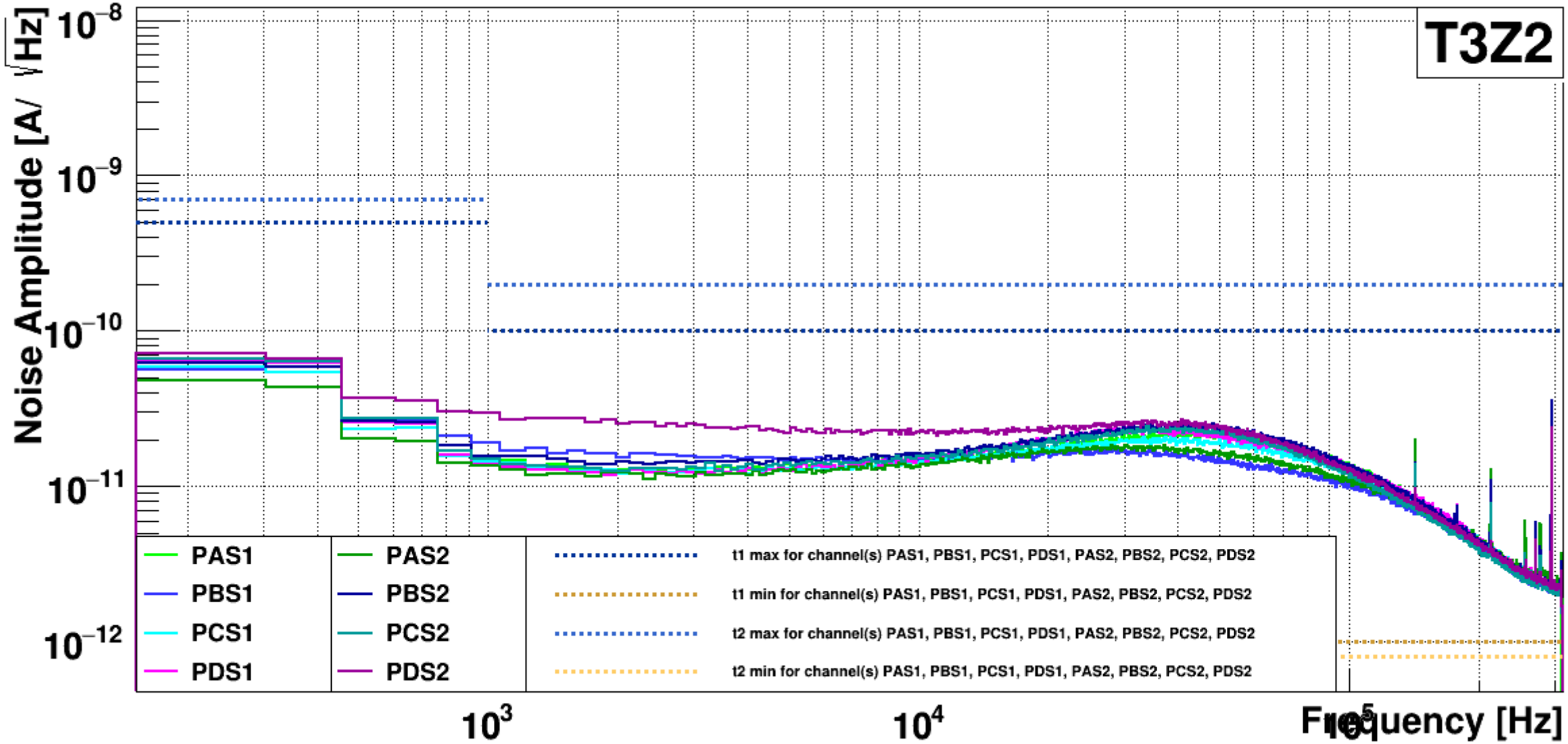

T2Z3
Noise Amplitude [V/ √Hz]
10^-6
10^-7
10^-8
10^-9
10^3
10^4
10^5
Frequency [Hz]
QIS1
QOS1
QIS2
QOS2
t1 max for channel(s) QOS1, QIS1, QOS2, QIS2
t1 min for channel(s) QOS1, QIS1, QOS2, QIS2
t2 max for channel(s) QOS1, QIS1, QOS2, QIS2
t2 min for channel(s) QOS1, QIS1, QOS2, QIS2

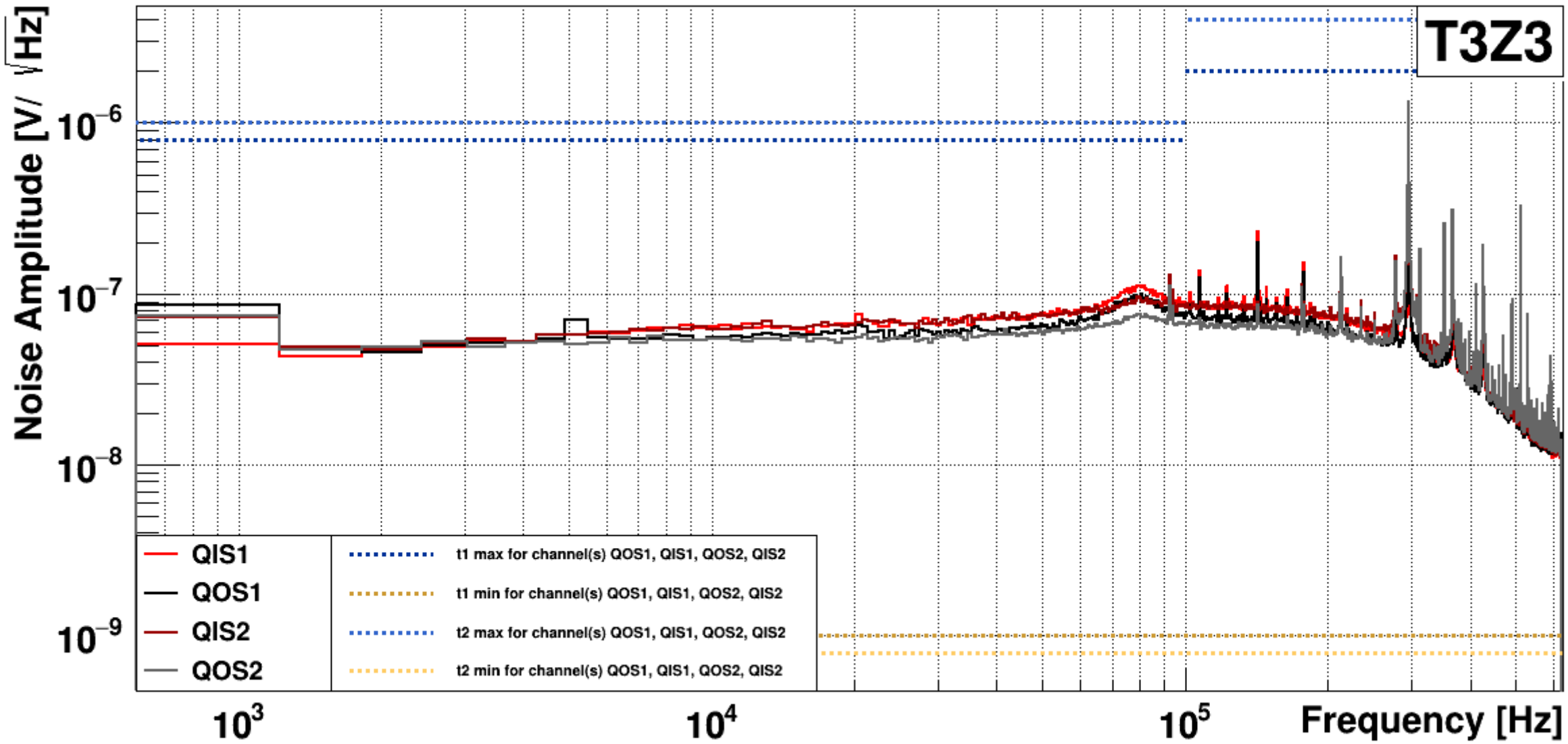

T2Z3
Noise Amplitude [A/ √Hz]
$10^{-8}$
$10^{-9}$
$10^{-10}$
$10^{-11}$
$10^{-12}$
$10^{3}$
$10^{4}$
$10^{5}$
Frequency [Hz]
PAS1
PBS1
PCS1
PDS1
PAS2
PBS2
PCS2
PDS2
t1 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t1 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2

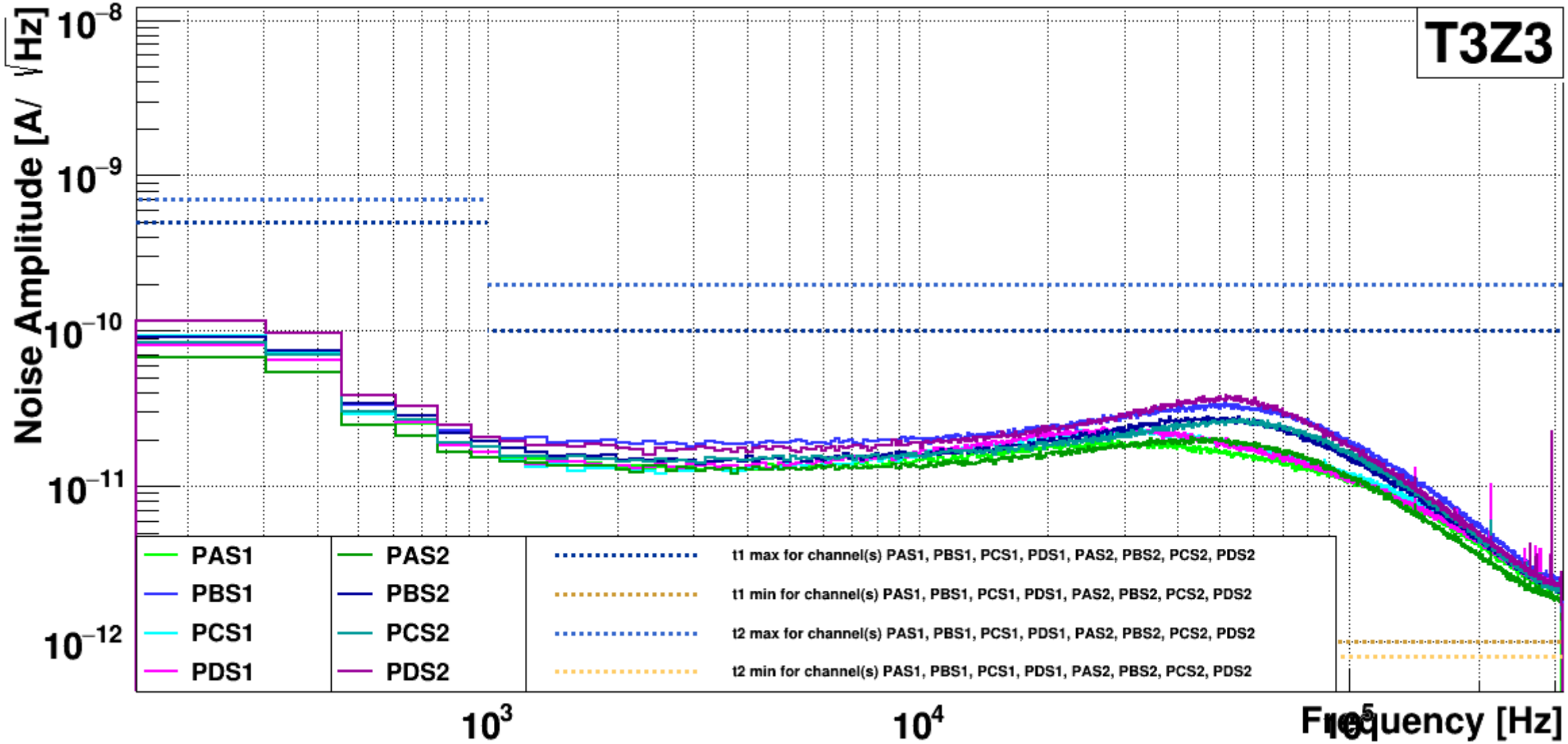

T3Z1
Noise Amplitude [V/ √Hz]
10^-6
10^-7
10^-8
10^-9
10^3
10^4
10^5
Frequency [Hz]
QIS1
QOS1
QIS2
QOS2
t1 max for channel(s) QOS1, QIS1, QOS2, QIS2
t1 min for channel(s) QOS1, QIS1, QOS2, QIS2
t2 max for channel(s) QOS1, QIS1, QOS2, QIS2
t2 min for channel(s) QOS1, QIS1, QOS2, QIS2

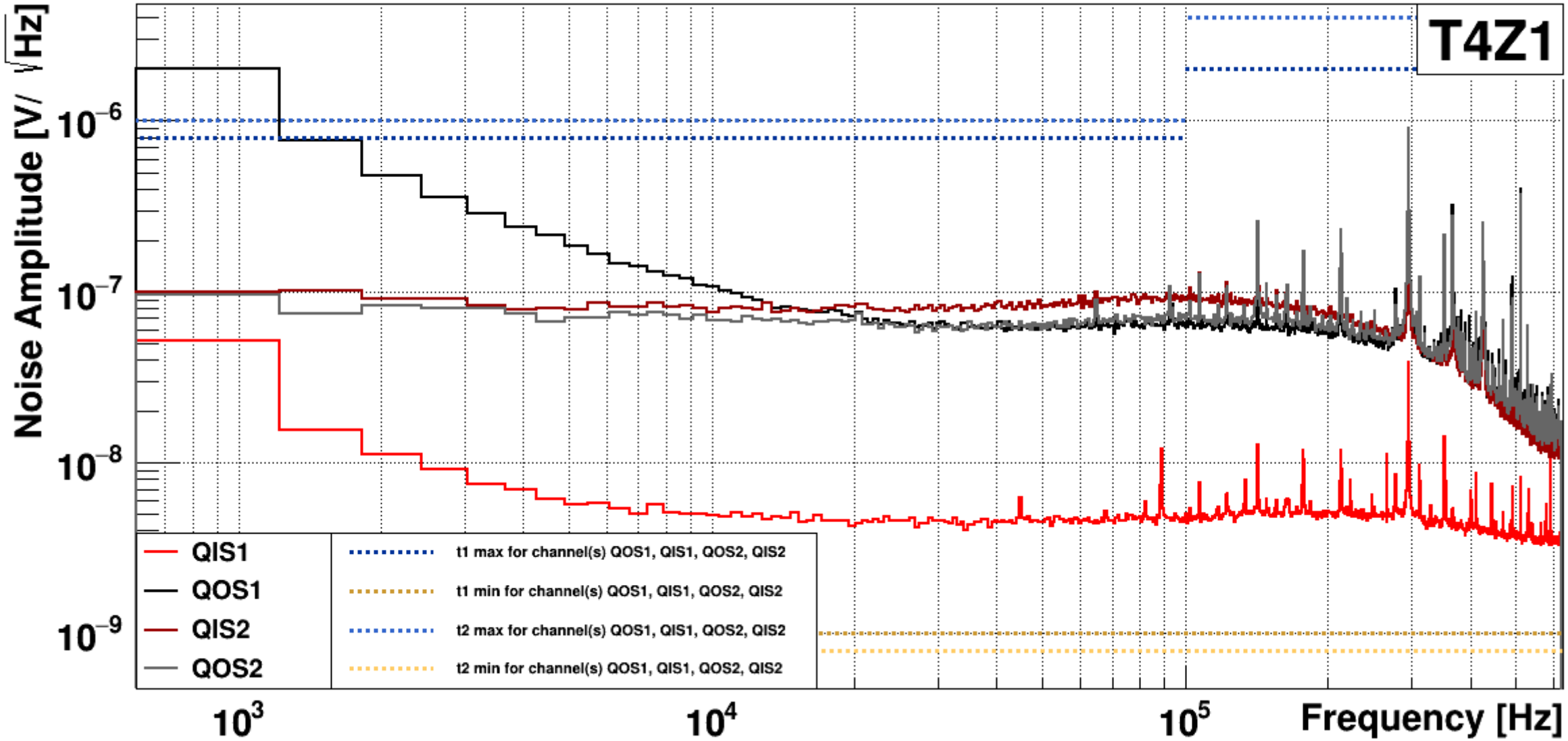

T3Z1
Noise Amplitude [A/ √Hz]
$10^{-8}$
$10^{-9}$
$10^{-10}$
$10^{-11}$
$10^{-12}$
$10^{3}$
$10^{4}$
$10^{5}$
Frequency [Hz]
PAS1
PBS1
PCS1
PDS1
PAS2
PBS2
PCS2
PDS2
t1 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t1 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2

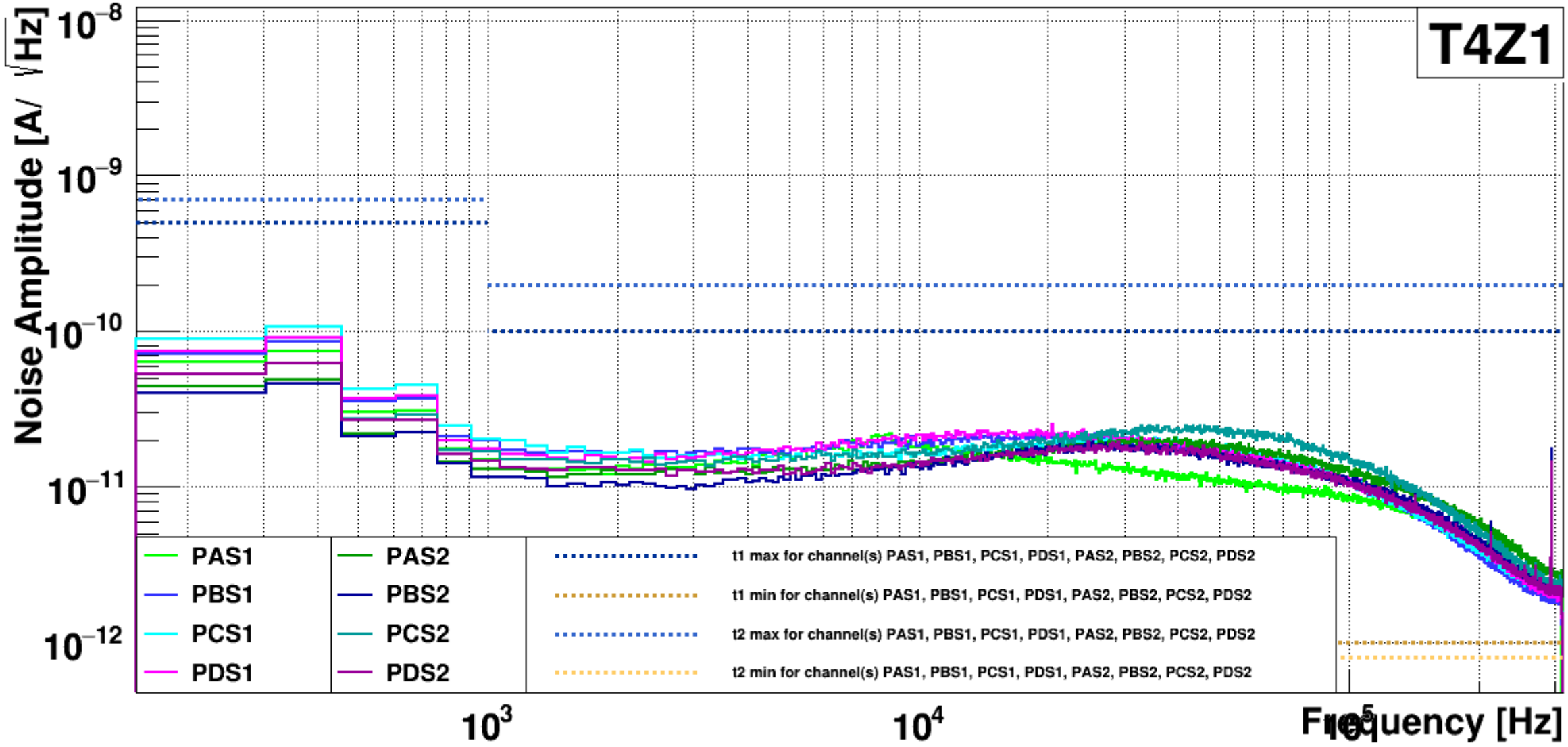

T3Z2
Noise Amplitude [V/ √Hz]
10^-6
10^-7
10^-8
10^-9
10^3
10^4
10^5
Frequency [Hz]
QIS1
QOS1
QIS2
QOS2
t1 max for channel(s) QOS1, QIS1, QOS2, QIS2
t1 min for channel(s) QOS1, QIS1, QOS2, QIS2
t2 max for channel(s) QOS1, QIS1, QOS2, QIS2
t2 min for channel(s) QOS1, QIS1, QOS2, QIS2

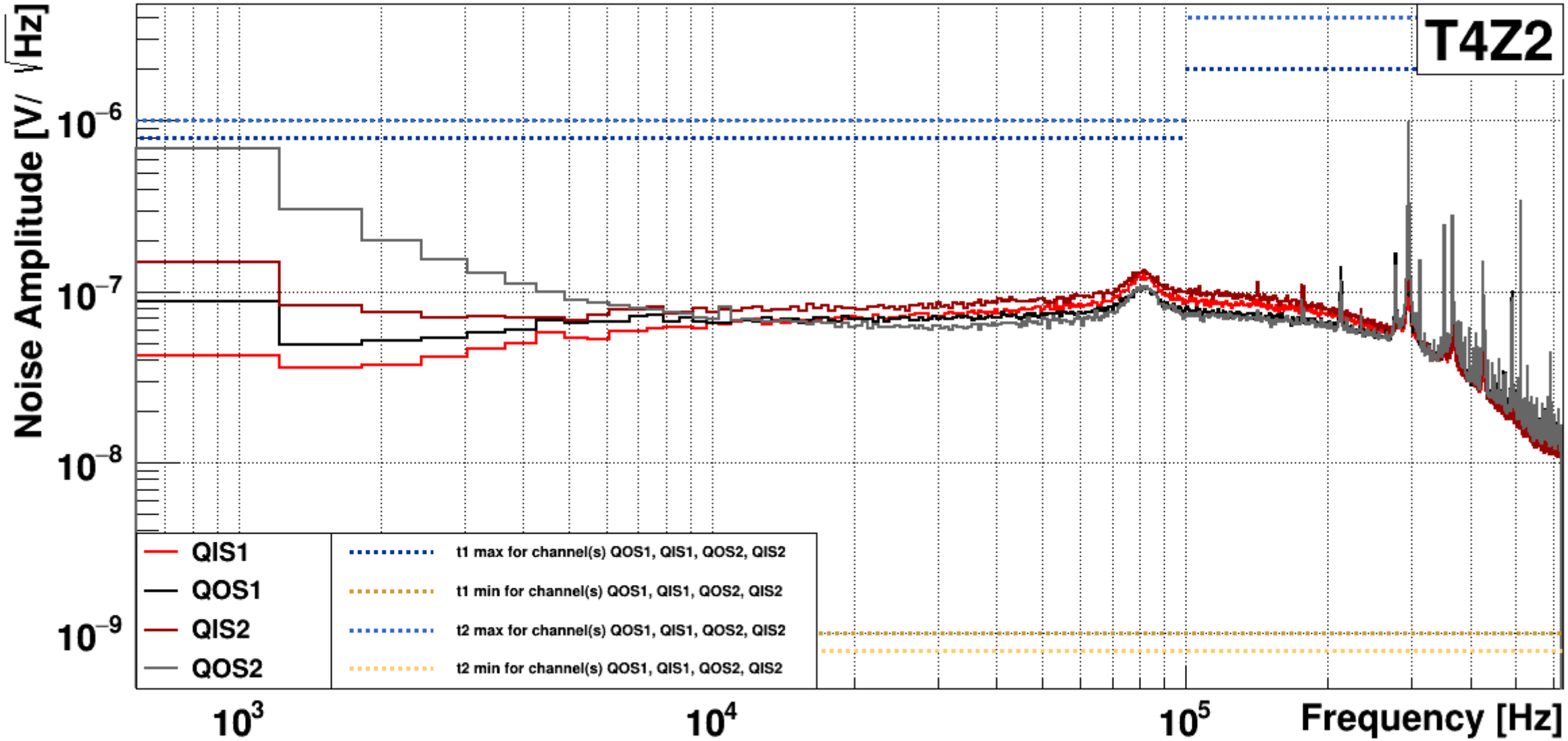

T3Z2
Noise Amplitude [A/ √Hz]
$10^{-8}$
$10^{-9}$
$10^{-10}$
$10^{-11}$
$10^{-12}$
$10^{3}$
$10^{4}$
$10^{5}$
Frequency [Hz]
PAS1
PBS1
PCS1
PDS1
PAS2
PBS2
PCS2
PDS2
t1 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t1 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2

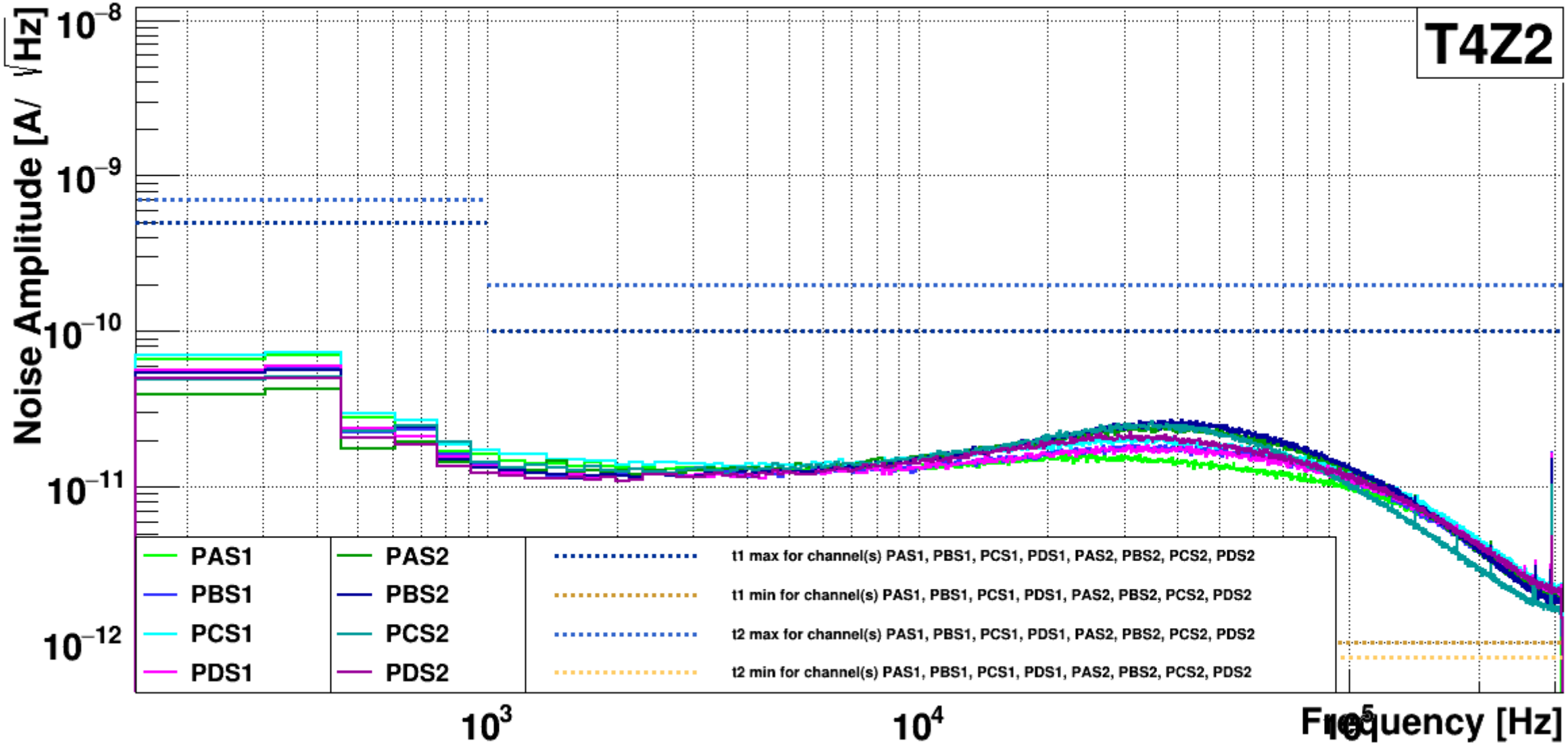

T3Z3
Noise Amplitude [V/ √Hz]
10^-6
10^-7
10^-8
10^-9
10^3
10^4
10^5
Frequency [Hz]
QIS1
QOS1
QIS2
QOS2
t1 max for channel(s) QOS1, QIS1, QOS2, QIS2
t1 min for channel(s) QOS1, QIS1, QOS2, QIS2
t2 max for channel(s) QOS1, QIS1, QOS2, QIS2
t2 min for channel(s) QOS1, QIS1, QOS2, QIS2

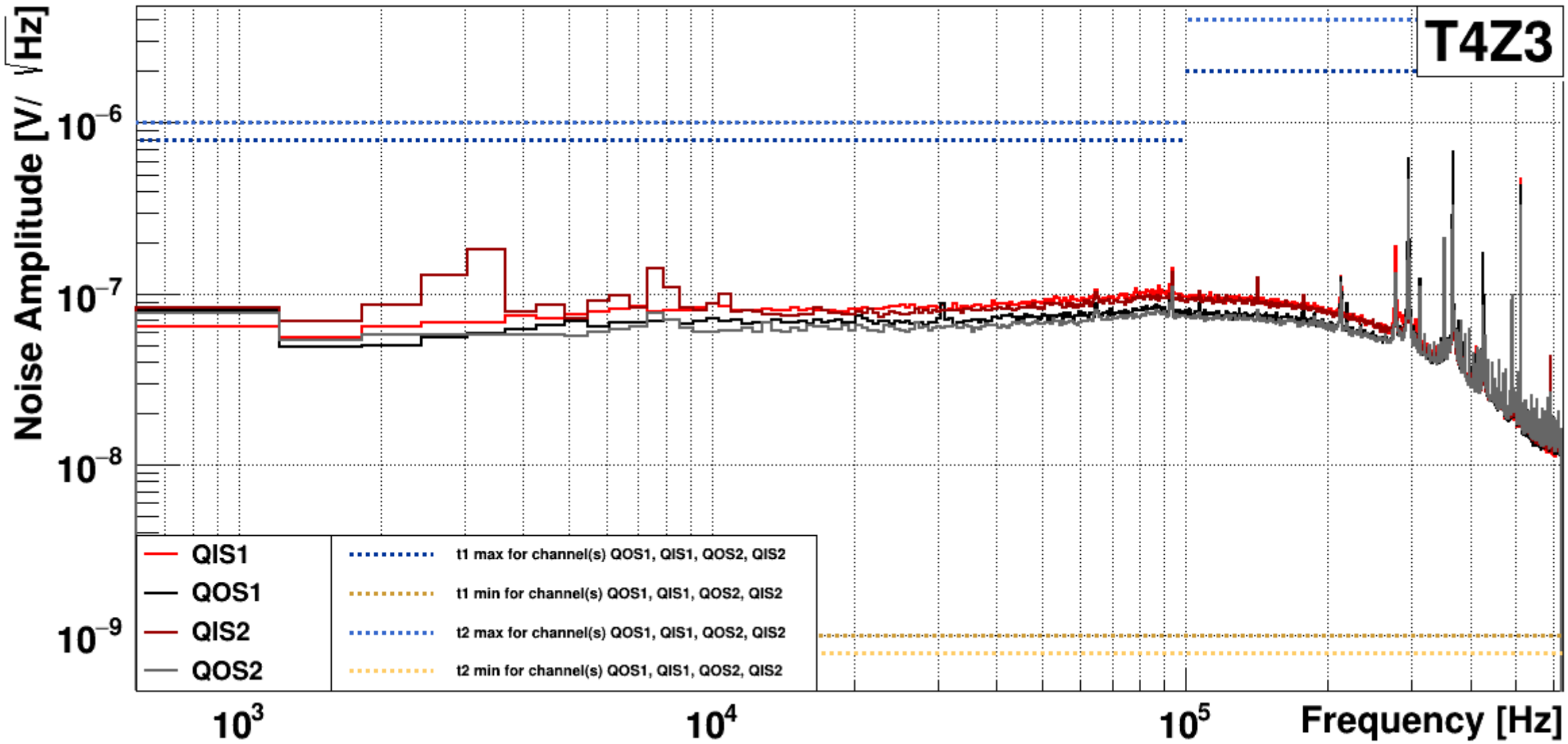

T3Z3
Noise Amplitude [A/ √Hz]
$10^{-8}$
$10^{-9}$
$10^{-10}$
$10^{-11}$
$10^{-12}$
$10^{3}$
$10^{4}$
$10^{5}$
Frequency [Hz]
PAS1
PBS1
PCS1
PDS1
PAS2
PBS2
PCS2
PDS2
t1 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t1 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2

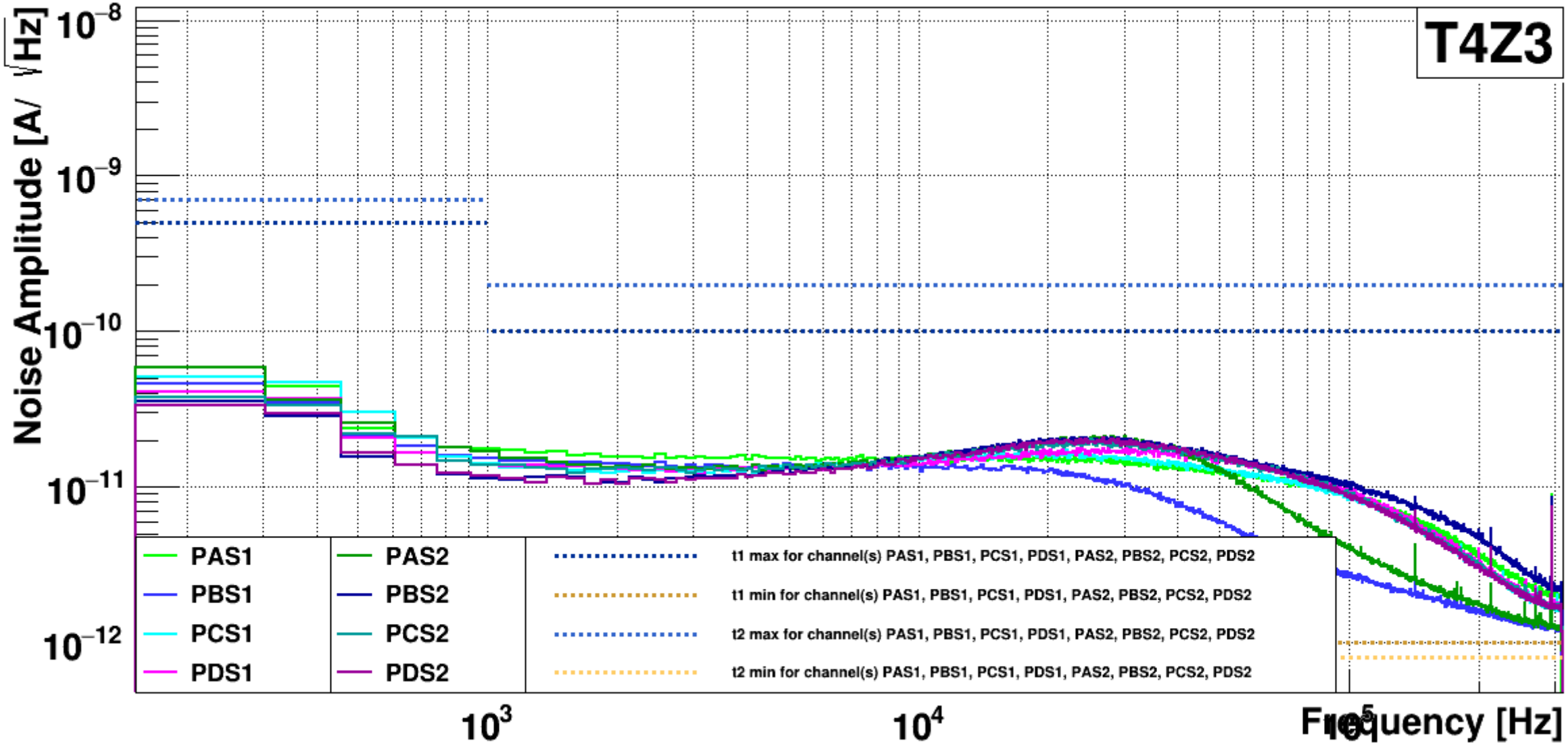

T4Z1
Noise Amplitude [V/ √Hz]
10^-6
10^-7
10^-8
10^-9
10^3
10^4
10^5
Frequency [Hz]
QIS1
QOS1
QIS2
QOS2
t1 max for channel(s) QOS1, QIS1, QOS2, QIS2
t1 min for channel(s) QOS1, QIS1, QOS2, QIS2
t2 max for channel(s) QOS1, QIS1, QOS2, QIS2
t2 min for channel(s) QOS1, QIS1, QOS2, QIS2


T4Z1
Noise Amplitude [A/ √Hz]
10^-8
10^-9
10^-10
10^-11
10^-12
10^3
10^4
10^5
Frequency [Hz]
PAS1
PBS1
PCS1
PDS1
PAS2
PBS2
PCS2
PDS2
t1 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t1 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2


T4Z2
Noise Amplitude [V/ √Hz]
10^-6
10^-7
10^-8
10^-9
10^3
10^4
10^5
Frequency [Hz]
QIS1
QOS1
QIS2
QOS2
t1 max for channel(s) QOS1, QIS1, QOS2, QIS2
t1 min for channel(s) QOS1, QIS1, QOS2, QIS2
t2 max for channel(s) QOS1, QIS1, QOS2, QIS2
t2 min for channel(s) QOS1, QIS1, QOS2, QIS2


T4Z2
Noise Amplitude [A/ √Hz]
$10^{-8}$
$10^{-9}$
$10^{-10}$
$10^{-11}$
$10^{-12}$
$10^{3}$
$10^{4}$
$10^{5}$
Frequency [Hz]
PAS1
PBS1
PCS1
PDS1
PAS2
PBS2
PCS2
PDS2
t1 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t1 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2


T4Z3
Noise Amplitude [V/ √Hz]
10^-6
10^-7
10^-8
10^-9
10^3
10^4
10^5
Frequency [Hz]
QIS1
QOS1
QIS2
QOS2
t1 max for channel(s) QOS1, QIS1, QOS2, QIS2
t1 min for channel(s) QOS1, QIS1, QOS2, QIS2
t2 max for channel(s) QOS1, QIS1, QOS2, QIS2
t2 min for channel(s) QOS1, QIS1, QOS2, QIS2


T4Z3
Noise Amplitude [A/ √Hz]
$10^{-8}$
$10^{-9}$
$10^{-10}$
$10^{-11}$
$10^{-12}$
$10^{3}$
$10^{4}$
$10^{5}$
Frequency [Hz]
PAS1
PBS1
PCS1
PDS1
PAS2
PBS2
PCS2
PDS2
t1 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t1 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 max for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2
t2 min for channel(s) PAS1, PBS1, PCS1, PDS1, PAS2, PBS2, PCS2, PDS2